MARCH, 1960

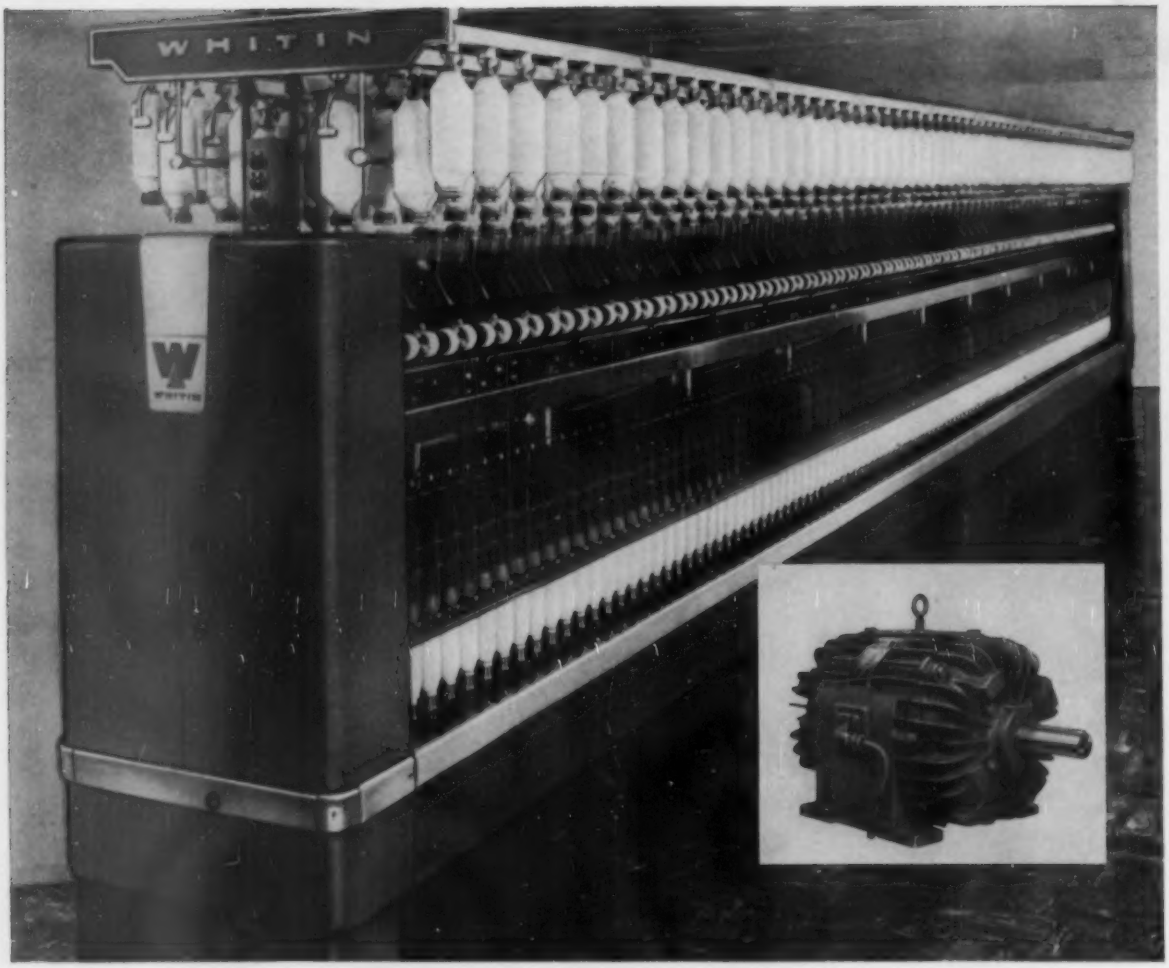
Textile World

What to Expect from 1960 COTTON ...page 49

AMERICAN DATA PROCESSING ...page 50

Progress Report on—

CHEMICAL TREATMENT and FINISHING ...page 75



AT WHITIN MACHINE WORKS

DIEHL* motors power new spinning frame

Described as "the world's most advanced spinning frame," the new "Piedmont" recently announced by Whitin Machine Works, Whitinsville, Massachusetts represents an investment of over a million dollars in research and tooling, and incorporates a score of innovations designed to achieve maximum operational efficiency and productivity in combination with attractiveness in appearance.

DIEHL engineers were called upon to work closely with WHITIN in the development of a motor drive that would exactly meet the requirements of this machine. The result . . . a motor of totally-enclosed design which provides extremely smooth start and smooth acceleration over its entire operating range, thus preventing yarn breakage. Despite its relatively small frame size, the motor has ample capacity to take care of various types of yarns and is equipped with thermal protection against possible excessive overloads. It has been accepted as standard equipment for the "Piedmont" Spinning Frame.

This is another example of DIEHL ability to work closely with machinery manufacturers in the development and manufacture of motors with the precise characteristics needed for efficient machine operation . . . an important reason for using DIEHL motors to power your equipment.

*Trademark of DIEHL MANUFACTURING COMPANY

Diehl®

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

Finderne Plant, SOMERVILLE, NEW JERSEY

Baltimore • Chamblee, Ga. • Charlotte • Chicago • Cincinnati • Cleveland • Los Angeles • Milwaukee • Needham, Mass. • New York • Philadelphia • Syracuse

This Month in **TEXTILE WORLD** March, 1960

Volume 110, No. 3

BUSINESS

Mill Production Steady for 9th Month in a Row . . . the longest period of sustained production at any level since World War II 3
Mill Profits—Best Since 1950 4
Mill Margins Jump to Six-Year High 5
Cotton-Price Support Takes Another Drop 5
Textiles in 1960 Autos Take a Dip in Estimates 6
Import Quota on Wool Goods Stays at 13.5-Million Lbs. 7
Mexico's Textile Industry in Period of Growth 8
Mills Get More Support in Cotton-Imports Scrap 8
Fiber Identification Act Goes Into Full Effect 9
Cotton-Cloth Imports Up, Exports Down in 1959 9
Textile World's Index and Monthly Indicators 10

MANAGEMENT & SUPERVISION

Wages, Taxes, and Machinery (Editorial) 47
How Good a Supervisor Am I? Here's a chance to help yourself answer the ever-intriguing question, "How am I doing?" 17
HUMANICS—When Do You Say It? 18
American Thread Launches Big Data—Processing Center . . . to control and coordinate the operation of its seven mills 56
Supervisor Training Pays Off at Lebanon 61

MANUFACTURING

. . . FIBER

What You Can Expect From 1959 Cotton. USDA tests show that quality is generally good, ginning practices are improving, and the best cotton was produced in the Far West. 49
Details on Lycra Spandex Fiber 54

. . . CARDING

Mill Check-up—2. The Superintendent Inspects Opening and Cleaning. Here's how a busy superintendent conducts the second phase of his fast but careful inspection of his mill 64
How To Clean Rub Aprons 180

. . . SPINNING

Easy Way to Check Twister-Bobbin Content. Here's a simple formula that can save you a lot of winding and unwinding if you normally use trial-and-error methods... 162

. . . WARPING & SLASHING

Best of Old and New Methods Bring Success in Slashing . . . for Cadillac Warping & Sizing Co., a commission and sales mill for beamed or slashed warps for other mills 52

. . . WEAVING

Man-Made Fibers Move Into New Markets . . . in woven-felt fabrics for special end uses 59
Create New Design Methods To Increase Fabric Output 62
For Slasher Squeeze Rolls—Wool or Rubber? 164

. . . KNITTING

Standardized Needles and Molds Cut Knitting-Machine Elements . . . so it's no longer necessary to carry a large inventory of warp-knitting-machine needles and molds 55

. . . ENGINEERING

Conveyor in Knitting Mill Ups Shipping Output 35% 182

. . . QUALITY CONTROL

Here's a Quick Way To Make Neps Counts 60

. . . WASTE CONTROL

How Four Cotton Mills Control Spinning Waste 63

Please turn the page

CHEMICAL TREATMENT & FINISHING

Section Contents Page 67
Textile Chemicals 69
New Dyes and Chemicals 72
A Progress Report on Chemical Treatment and Finishing 75
Preparation and Bleaching—10. The Newer Formulations 85
The Chemistry and Application of Rug-Backing Compounds—II. 103
Tips to Troubleshooters—Dyes May Trigger Oxycellulose Formation 107
Simple Finishing Processes Raise Gray-Goods Value 110

DEPARTMENTS

. . . MANAGEMENT
Editorial 47
Pointers for Supervisors 17
Textile Business 3

. . . TECHNICAL
Kinks & Short-Cuts 139
Mill Maintenance 176
Questions & Answers 125
Textile Chemicals 69

. . . NEW PRODUCTS
Equipment & Supply News 149
Fibers, Yarns, Fabrics 135
New Dyes and Chemicals 72
New Literature 158

. . . NEWS
News About Men 190
News About Mills 4
News About Suppliers 184
Obituary 192

. . . GENERAL
Calendar 20
Reader Service 201
Advertisers' Index 200

MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS AND AUDIT BUREAU OF CIRCULATIONS

A McGRAW-HILL PUBLICATION

TEXTILE WORLD

DONALD H. WHITE ..... Publisher

Richard B. Pressley ..... Senior Associate Editor
William O. Ashmore ..... Associate Editor
Robert W. Pinault ..... Associate Editor
Robert E. Walk ..... Art Director
Carol J. Wilhelm ..... Copy Editor
C. Norris Rabold ..... Consulting Editor
William A. Newell ..... Consulting Editor
Leopold Licht ..... Consulting Editor
E. H. Hellwell ..... Contributing Editor
H. S. Knowlton ..... Contributing Editor
John Wilhelm ..... Director of News Bureaus
George B. Bryant, Jr. ..... Chief, Washington Bureau
Donald MacDonald ..... Chief, Detroit Bureau
B. E. Barnes ..... Chief, Atlanta Bureau
Marvin Reid ..... Chief, Dallas Bureau
John Shinn ..... Chief, London Bureau

Robert E. Farrell ..... Chief, Paris Bureau
Sol Sanders ..... Chief, Tokyo Bureau
Morris Helitzer ..... Chief, Bonn Bureau
Ernest Conine ..... Chief, Moscow Bureau
Peter Weaver ..... Chief, Mexico City Bureau
John Pearson ..... Chief, Caracas Bureau
Stan Rich ..... Hong Kong
Alicia Grobtuch ..... Melbourne
Raymond Shah ..... Zurich
Gene Di Raimondo ..... Milan

Plus bureaus and correspondents in 127 major cities throughout the world

Dexter Keezer ..... Economics Director
Walter C. McMickle ..... Advertising Sales Manager
Thomas Maraliysa ..... Business Manager
Howard J. Bernard ..... Circulation & Promotion

DISTRICT OFFICES:
ATLANTA 3, William O. Crank, Dist. Mgr., Rhodes-Haverty Building
BOSTON 16, Ralph L. Chisholm, Dist. Mgr., 350 Park Square Building
CHICAGO 11, David W. Leake, Dist. Mgr., 520 North Michigan Ave.
CLEVELAND 13, Robert Edsall, Dist. Mgr., 55 Public Square
NEW YORK 36, Stokes T. Henry, Dist. Mgr., 500 Fifth Ave.
PHILADELPHIA 3, H. C. Harvey, Dist. Mgr., Six Penn Center Plaza
WASHINGTON 3, National Press Building

OTHER OFFICES: Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; San Francisco 4; London E.C. 4; Paris 7; Bonn; Rio de Janeiro; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E 4; Toronto 4; Frankfurt/Main.

© Copyright 1960 by McGraw-Hill Publishing Co., Inc. (All rights reserved)

TEXTILE WORLD, Henry G. Lord founder. Published monthly with an additional issue in July, by McGraw-Hill Publishing Co., Inc. PUBLICATION OFFICE: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or changes of address. EXECUTIVE, SUBSCRIPTION, AND ADVERTISING OFFICES: 330 West 42nd Street, New York 36, N. Y. EDITORIAL OFFICES: 201 East Coffee Street, Greenville, S. C., and 330 West 42nd Street, New York 36, N. Y.

Officers of the Publications Division: Nelson L. Bond, President; Shelton Fisher, Wallace F. Traendly, Senior Vice Presidents; John R. Callaham, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. Officers of the Corporation: Donald C. McGraw, President; Joseph A. Gerardi, Hugh J. Kelly, Harry L. Waddell, Executive Vice Presidents; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary.

SUBSCRIPTIONS are solicited only from executives, engineers, chemists, and technicians in textile manufacturing companies and finishing plants. Position and company connection must be indicated on subscription order. Single copies $1.00. Subscription rates: United States and Possessions and Canada, $3.00 a year; all other countries, $20.00 a year. Second-class postage paid at Albany, N. Y. Printed in U. S. A.

SUBSCRIPTIONS: Address correspondence and change of address to Fulfillment Manager, TEXTILE WORLD, 330 West 42nd Street, New York 36, N. Y. When address is changed, subscribers should give old as well as new address, including postal zone number. Enclose recent address label if possible. Allow one month for change to become effective.

Postmaster . . . Please send form 3579 to Textile World, 330 W. 42nd St., New York 36, N. Y.

TEXTILE BUSINESS

Textile World

MARCH • 1960

Mill Production Steady For 9th Month in a Row

Mills continued to operate last month at the fast pace set in the last half of last year, and no firm signs that the cyclical drop expected about this time has yet developed.

For nine months in a row, production has remained at the present level—116 to 119 (1954=100) on TEXTILE WORLD's Index chart, p. 10. That's the longest period of sustained production at any level since World War II.

With mill margins high, production high, and profits the best since 1951, the textile industry is now in its best business period in the last nine years.

●

Sales, inventories, and the ratio of inventories to sales all moved down slightly in the Latest Month tabulated on p. 10. The drop was almost certainly in response to the year-end-holidays season, and the fact that all the measurements moved together is a healthy sign.

• **Mill sales** were running at an annual rate of $14.5-billion, up 12% from the year-ago rate of $12.9-billion.

• **Inventories** at the mill were about $21-million above inventories in the same month a year ago but were still only about a two-months' supply.

• **Inventories-to-sales ratio** again dropped below 2.00, standing at 1.97, compared to 2.29 the previous year.

These measurements indicate the closest and most realistic control over production vs. sales that mills have exercised in late years, perhaps in decades.

●

Some adverse elements began to show last month, however.

Offerings of second-hand cloth increased.

This usually indicates the first weakening of the demand for textile goods. In the buildup period of business, speculators buy cloth as they buy any other commodity or play the stock market —not for use but to hold for a gain in price.

The operations of these traders are one of the foggy elements in the business, one of the unknown factors that block accurate forecasting and heighten the up-and-down fluctuation of business. Right now, nobody knows how much cloth they have stored in warehouses. But their decisions to sell at a profit account for most of the second-hand offerings of cloth for sale.

Some of these goods were traded last month.

So far, the offerings have not been of sufficient volume to put pressure on mill prices.

●

Another element that some observers consider an adverse sign is the current level of production.

On a chart, production for the last nine months has been hovering at a critical point. In almost every rise of production since World War II, the present level has represented the high—a "ceiling," chart technicians would call it.

NEWS ABOUT MILLS

Adams-Millis Corp., High Point, N. C., has announced it will curtail knitting operations at its Tryon, N. C., plant. According to reports, the company has no plans to sell or close the Tryon plant. The plant manufactures women's full-fashioned hosiery. The company has also announced that it has formed a new selling organization with P. H. Hanes Knitting Co., Winston-Salem, N. C., called the Hanes-Millis Sales Corp. The new selling company will market only men's, children's and infants' socks under the trademark Hanes Red Label. The companies' other existing products will not be affected by the new company.

•

Almar Dyeing & Finishing Corp., New York, N. Y., has been formed by Albert Marx, former head of Marx Dye Works, New York. The plant will specialize in all preparation work in silk fabrics prior to printing.

•

Ames Textile Corp.'s new division, H. P. Chandler, Inc., Lowell, Mass., has taken over 26,000 sq. ft. at the former Doherty Parachute Co. in Lowell.

•

Associated Spinners Inc., Gastonia, N. C., has made an additional installation of Turbo processing equipment in its Orlon division.

•

Bacon Felt Co., Taunton, Mass., has moved to new executive, sales, and engineering offices at 11 Fifth St.

•

Buck Creek Cotton Mills, Siluria, Ala., will complete the modernization of its Starksville, Miss., plant at a cost of $100,000. All processing equipment except the cards will be replaced.

•

Carolina Mills, Inc., Newton, N. C., is moving its standards and controls office and central control laboratory to Maiden, N. C. A part of the com-

Breaking through such a ceiling, chartists say, is difficult. If the chart line fails to break through, it is likely to go down again. If it does break through, this ceiling then becomes a floor for the next drop.

The fact that production has held at its present level for so long indicates to some that it does not have the force to break through the ceiling and must go down. To others, the same fact indicates that there is not enough weakness to force production down much and that the ceiling is sure to be broken after a minor dip.

•

Mills don't expect a serious change for some months yet.

Order backlogs are good, and any pressure on prices is spotty. The wage raises now building up will reduce profits somewhat, but it now looks certain that profits will remain good for all of 1960.

Mill Profits— Best Since 1950

Mill profits in the late months of 1959 and early months of 1960 ran about twice as high as in the year-ago period, according to interim operating statements last month.

• **Burlington Industries,** for example, for the first three months, ended Jan. 2, of its fiscal year turned in a profit after tax equal to 4.4% of sales, compared to 2.2% in the year-ago period.

• **Joseph Bancroft** in the last six months of 1959 showed an after-tax profit equal to 4.0% of sales, compared to 2.8% in the previous-year period.

• **Riegel Textile** in the 16 weeks ended Jan. 23 had a profit after tax equal to 2.5% of sales, compared to 1.0% in the same year-ago period.

Two other mills issuing statements last month for the entire year's operations ran well over 4% profit on sales. Indian Head, with a tax-loss carry-over in both years, showed 4.7% profit on sales in 1959, compared to 5.4% in 1958. Kendall Co.'s profit for all of 1959 ran 4.6% of sales, compared to 3.7% in 1958.

•

Industry profits have not averaged 4.0% of sales since 1950. Profit levels for the 10 years of the 1950's were:

1950 - 5.8%	1955 - 2.6%
1951 - 3.9	1956 - 2.6
1952 - 1.9	1957 - 1.9
1953 - 2.2	1958 - 1.6
1954 - 0.9	1959 - 1st quarter 2.5
	2nd quarter 3.2
	3rd quarter 3.0

Fourth-quarter government figures for last year are not out yet, but that quarter may have raised the year above 3.0%. If so, 1959 was the first year since 1951 that profit went as high as 3%, both for the year and for any quarter.

•

Mill sales were also still showing improvement over the year-

ago levels, with Burlington's sales up 10.6% for the three months ended Jan. 2, Bancroft's up 16.7% for the six months ended Dec. 31, and Riegel's up 6.5% for the 16 weeks ended Jan. 23.

This pattern followed the industry production pattern, as shown on TEXTILE WORLD's Index chart on p. 10.

Production was still climbing in the early months of last year. From a level of about 110 (1954=100) at the turn of the year, it went to the level of about 118 by June and has held between 116 and 119 since. That's an increase of about 6% to 8%.

•

Here's how some of the companies were doing—

• **Burlington Industries:** three-months' sales, $207.8-million, up 10.6% from year-ago sales of $187.9-million; profits, $9.1-million, up 116.4% from year-ago profit of $4.2-million.

• **Indian Head:** for 12 months, sales, $56.1-million, up 3.0% from year-ago's $43.1-million; profit (tax free), $3.5-million, up 50.2% from year-ago's $2.3-million.

• **Joseph Bancroft:** for six months, sales, $13.3-million, up 16.7% from sales of $11.4-million the previous year; profit, $537,000, up 64.9% from the $324,000 in the previous period.

• **Kendall Co.:** for 12 months, sales, $110.7-million, up 6.9% from the $103.3-million in the preceding year; profit, $5.1-million, up 35.4% from the $3.8-million a year ago.

• **Riegel Textile:** for 16 weeks, sales, $28.3-million, up 6.5% from sales of $26.6-million in the year-ago period; profit, $737,000, up 178.0% from the $265,000 profit in the previous period.

Mill Margins Jump To Six-Year High

Mill margins (the difference between the buying price of cotton and the selling price of 20 cloth constructions) hit a high of 33.2¢ in December, up from 33.0¢ in November and 25.0¢ in December of 1958, the Dept. of Agriculture reported last month.

The improvement resulted from better fabric prices rather than lower cotton prices. Cloth price rose to 66.3¢ for the cloth made from a pound of cotton, the highest price since August 1954 and nearly a cent above the 65.5¢ value in November. Cloth value for the 20 constructions stood 7.4¢ above December 1958—66.37¢, compared to 58.98¢.

The price of cotton used in the 20 constructions averaged 33.17¢ a lb., up only 0.62¢ from 32.55¢ in November and down ¾¢ from the 33.92¢ of November 1958.

Cotton-Price Support Takes Another Drop

The price of cotton met new downward pressure for the 1960 crop early last month on the heels of the January 29 announcement of new price-support levels.

pany's other offices will also be moved.

•

Canadian Cottons Ltd., Montreal, Que., has been sold to Cornwall Industries Developments.

•

Cherry Knitting Mills, Philadelphia, Pa., has moved from 2712 N. Hope St. to new larger quarters at 426 E. Allegheny Ave.

•

Courtaulds Carpets Ltd., Montreal, Que., has been formed to manufacture and market tufted carpets in Canada. The tufted carpets will be made at the company's plant in Cornwall, Ont.

•

Delaine Worsted Mills, Inc., Gastonia, N. C., has installed a new Turbo stapler and winding and overhead-cleaning equipment valued at more than $40,000 in its Orlon-spinning plant.

•

Ensign-Bickford Co., Simsbury, Conn., is discontinuing its production of jute yarn.

•

Federal Spinning Corp., Sanford, N. C., is a newly formed company that is now producing man-made-fiber yarn. It eventually will employ about 125 people, with an annual payroll of about $300,000.

•

Fowler-Mohawk Corp., Johnsville, N. Y., has been formed to process and finish industrial fabrics. William M. Fowler, former president of Adirondack Finishing Corp., Johnstown, N. Y., is the principal.

•

Fulton Cotton Mills, Atlanta, Ga., is moving its Chicago, Ill., regional sales office to 6444 N. Central Ave.

•

Halifax Mills, Halifax, Va., is building its own water-filtration plant.

•

Heist-McCain Hosiery Mills, Rockwell, N. C., will lease 12,000 sq. ft. of floor space in a new brick veneer plant when it is completed. The plant will house the company's offices and contain a boiler room, dye room, and boarding room with ample storage and shipping area.

•

Indian Head Mills, Inc., New York, N. Y., plans to buy Hoosac Mills

Corp., North Adams, Mass., from Associated Textile Cos. Hoosac produces filament rayon and acetate fabrics.

•

Ivey Weavers, Inc., Hickory, N. C., has bought a 27-acre tract of land near Valdese.

•

Kalmia Braids, Inc., Spruce Pine, N. C., has sold its machinery and physical assets to Brady Mfg. Co., Coleridge, N. C. All machinery, raw materials, and goods in process have been moved to the Brady plant.

•

Kayser-Roth Corp., New York, N. Y., has bought Wispese Corp., Perkasie, Pa., and will operate it as a division of the Kayser-Roth Lingerie Co., Inc. Arthur R. Lewis, former president and co-owner of Wispese, has been named vice president of the division. The deal also brings Kayser-Roth a 50% interest in Elastic Cloths Ltd., a firm that manufactures and sells Wispese products in Great Britain.

•

Liberty Hosiery Mills, Inc., Gibsonville, N. C., has combined its operations with those of American Hosiery Mills, High Point, N. C.

•

M. Lowenstein & Sons, Inc., New York, N. Y., has formed a separate subsidiary called the Veriset Association that will promote the use of Veriset fabrics under a licensing plan.

•

Mary-Leila Cotton Mills, Greensboro, Ga., is completing a modernization program that cost more than $½-million.

•

Mayflower Plant, Cramerton Mills, Cramerton, N. C., is planning to build a 50,000-sq.-ft. addition for warehouse space and new yarn-dyeing facilities.

•

The former Merion Worsted Mills' property, West Conshohocken, Pa., has been leased to George W. Hepworth & Co. The buildings contain about 150,000 sq. ft. of space and are multistory structures.

Choice A and Choice B cotton, initiated for the 1959 crop, will again be permitted in the 1960 crop. The new support prices will be—

- Choice A—28.97¢ a lb., down 1.43¢ from the 30.40¢ support level in 1959.
- Choice B—23.18¢, down 1.52¢ from 24.70¢ in 1959.

New-crop cotton futures broke sharply in the week after the announcement of the new support prices.

Expectations are that cotton will come 1.50¢ to 1.75¢ per lb. cheaper than for the 1959 crop.

Textiles in 1960 Autos Take a Dip in Estimates

DETROIT—Some of the bloom is peeling off one of the textile industry's best customers: automobiles. Earlier estimates of auto production and use of textiles in automobiles are now shrinking.

Back in December automakers targeted an optimistic 2,270,000 passenger cars for production in the 1st quarter of 1960. This total has since been shaved to 2,200,000—a drop of 3%—as sales failed to keep pace with factory output. Currently, automen are keeping their fingers crossed for the right indicators to jell. As one put it: "Right now when I look into the old crystal ball, I see only my face in it."

Here is what bothers him—

January production totaled 689,000 units; but actual sales, up 25% from December, amounted to only 450,000. Dealer inventories climbed to 800,000 cars, a figure considered by experts to be the maximum that is workable. If the February goal of 700,000 cars was reached and sales did not increase correspondingly, dealers now have about 1,000,000 cars on hand.

This inventory is considered dangerously high, especially by banks and finance companies that must bear the floor-planning risk. Barring an unexpected spurt above the current daily selling rate, further softening of production is in sight.

•

A 6,500,000 model year (including imports) is now considered conservative but 7,000,000 definitely optimistic. The latter figure, freely predicted by many sources earlier in the year, depends entirely upon renewal of a "spring selling surge."

For years, production and sales were significantly higher in the second quarter than the preceding quarter until 1956. No surge materialized in the spring of 1957 or 1958, but it was back again last year at a healthy 30% rate of upturn.

Within the over-all figures, there is considerable shuffling of model popularity. Both Ford and Chrysler readily admit underestimating the market for Falcons and Valiants. On the other hand, they and Chevrolet stand ready to adjust production to suit consumer preference.

This flexibility is reflected in current scheduling. Ford Division, for example, plans 370,000 standard-size passenger cars this quarter, down 29,000 from last year. But to this number must be added 123,000 Falcons, to make the over-all total 23%

higher than in the same period of 1959.

•

Textile suppliers may or may not be hurt by the shift to compact cars. The smaller tires use 10% less cord; rubber floor mats are substituted for carpet in most compact models; and the more austere interiors require 1 sq. yd. less cloth. But on the bright side, a recent Ford survey reveals that 40% of Falcon sales have been made to persons who bought their trade-in on the used-car market. Another 9% was sold to persons without a trade-in indicating that the purchaser was becoming a car owner or a two-car owner for the first time.

Available figures show that about 15% of Falcon sales are at the expense of bigger Fords. Conquest sales (trade-ins of other makes) probably account for another 15%. Much of the remainder must come from the year-old used-car market, which has lately softened about $100 per unit. Dropping foreign-car sales account for the small balance.

Chevrolet officials freely admit that early troubles with fuel economy and fan-belt breakage have hurt current Corvair sales. Present owners are slow to come in for the free fix and meanwhile grouse to anyone who will listen. In this atmosphere, Chevrolet dealers find it easy, as well as more profitable, to switch the interest of a wavering Corvair prospect to the standard-size car.

•

Neither Valiants nor Comets are plentiful enough to set up a pattern; but it may be significant that Falcon, Rambler, and Dodge each has a slight edge on the third-highest sales spot, which traditionally has been held by Plymouth. Here again, the smaller Dodge Dart accounts for about 85% of that company's production. In fact, the Dart can be credited with putting Dodge back on its feet.

By next model season, which will be about a month earlier than usual, four new American-made compact cars will be offered to the public. Dodge plans its own version of the Valiant, and the Buick-Oldsmobile-Pontiac assembly combine will have a new, and as yet unnamed, model to augment the standard-size models of these divisions.

Whatever scrambling around automakers do, one thing is clear: the compact car is a success, and its replacement of standard models will be reflected in the auto industry's use of textiles.

Import Quota on Woolens Stays at 13.5-Million Lbs.

WASHINGTON—Domestic tariff-quotas on wool-fabric imports will be continued in 1960 under the same formula that has applied since 1956, the White House announced last month. The 1960 cut-off point is the same as last year's—13.5-million lbs.

This year's Tariff Commission and Committee for Reciprocity Information hearings on extending the imports curbs were "less acrimonious" than before, trade officials report. Efforts on the part of some domestic manufacturers and British, French, and Italian importers to set up country-by-country allocations to re-

Merrimack Mfg. Co., Lowell, Mass., has announced that it will resume production of velveteens. Corduroy production is expected to be added later. Louis F. Fayan, a former superintendent of the original Merrimack Mills, will be vice president. The company has leased space in the Hub Hosiery Mills' property.

•

Millburn Mills, West Warwick, R. I., has sold its Bryant Finishing Co. property in West Warwick for $175,000 to Hoechst Chemical Co. Bryant Finishing bought Durham Hosiery Mill, Durham, N. C., in which Bryant plans to start operations in October.

•

NAFI Corp., formerly National Automotive Fibres, Inc., Oakland, Calif., is planning to buy the Chris-Craft Corp., Algonac, Mich.

•

National Spinning Co., Washington, N. C., has opened its $1¼-million plant in Brunswick, N. C. The plant now employs 50 people and hopes to gradually increase the working force to about 125.

•

North American Lace Co., Philadelphia, Pa., has sold a portion of its industrial property in Philadelphia but will lease back the entire finishing building for its finishing operations and part of the office building for its executive offices. Weaving operations will be expanded at the company's Pawtucket, R. I., plant.

•

Ocean Knit Wear Co., Mayaguez, Puerto Rico, is a newly formed company. The new plant will have $20,000 in machinery and will employ about 70 people.

•

Penn-Carol Hosiery Mill, Mt. Pleasant, N. C., has started its third expansion since it went into operation April 1, 1958. The mill's power unit will be enlarged as part of the program.

•

Spartan Mills, Spartanburg, S. C., is installing 208 new Draper X-2 50-in.-wide looms in its No. 2 weaving department as part of a $500,000 modernization program. The new looms are being installed in a 132x 160-ft. addition to the No. 2 mill building.

•

Standard-Coosa-Thatcher Co., Chattanooga, Tenn., has announced that it has started a $1¼-million ma-

chinery-modernization program. New Saco-Lowell FS-2 10x5 fly frames and new Saco-Lowell combers have already been installed at the company's Coosa Div. plant in Piedmont, Ala.; and a building is now being constructed at the Rossville, Ga., plant.

•

Standard Knitting Mills, Oakboro, N. C., is building an 8,000-sq.-ft. addition to its plant. The addition will be used primarily as the dyeing and finishing department.

•

Stonecutter Mills Corp., Spindale, N. C., has announced a new expansion program that will cost between $1.6 and $2.4-million. An 80,000-sq.-ft. addition to the spinning room that will nearly double its size of the spinning room will be built, and additional equipment will be installed.

•

J. P. Stevens & Co., Inc., Greenville, S. C., has assumed active management of Exposition Cotton Mills. The Exposition Plant is now part of the Utica Mohawk Group of the Cotton Div. The company has also formed a yarn-sales department to handle all yarn sales of the company. For the past two years the company has been selling yarns directly only in the South. Moher & Co. had continued to represent the company in the East and North until the present change.

•

Summit Finishing Co., Inc., Thomaston, Conn., has completed a two-story addition.

•

Summit Mills, a subsidiary of McComb Mfg. Co., Summit, Miss., is planning to build a 25,000-sq.-ft. addition.

WORLD BRIEFS . . .

U. S. Machine Sold to Poland

NORTH ADAMS, MASS.—An order from the Polish Government for a textile processing machine worth $28,000 has been received by James Hunter Machine Co.

Company officials said more purchases of Hunter machinery by Poland are expected in the initial phase

duce the growing share of imports from Japan were not pushed vigorously as in past years, and no such quotas were established.

•

The formula, prescribed under the so-called Geneva Reservation procedure of the General Agreement on Tariffs and Trade (GATT), which allows a nation to take counter-measures to offset trade concessions, works like this:

Wool-fabric imports are taxed at rates ranging from 30¢ to 37½¢ per lb., plus 20% to 25% ad valorem, depending on weight and quality, up to a total of 5% of average annual domestic production over the last three years. This 5%-of-average-production figure remains at 13.5-million lbs. for 1960. Above that volume, imports will be charged 45% ad valorem, except for certain high-priced goods, narrow hand-woven goods, and religious fabrics, which are penalized at the lower rate of 30% ad valorem.

The continuation of the wool-goods tariff quota is particularly disturbing to Great Britain, a point Prime Minister Macmillan specifically raised with President Eisenhower on his last visit. Eisenhower promised to consider some compromise.

Trade-policy officials say they anticipate some official negotiation between the U. S. and U. K. over general wool-fabric import rates, possibly when U. S. negotiators talk over-all tariff cuts this fall with all GATT partners as authorized by the Reciprocal Trade Agreements Act.

Mexico's Textile Industry In Period of Growth

MEXICO CITY—The textile industry of Mexico now estimates that it will need 1.5-million new spinning spindles, 34,000 new automatic looms, and other equipment in relation during the next 10 years.

Reason: the population of Mexico is expected to reach 45-million by 1970, and extensive modernization and expansion of the industry is needed to meet the growing textile needs.

Cost of the equipment is estimated at $280-million, of which nearly $200-million worth will be imported.

Mills Get More Support In Cotton-Imports Scrap

WASHINGTON—U. S. textile mills picked up solid support last month in their running battle to win new protection against cotton-goods imports. But as this issue of TEXTILE WORLD went to press it appeared to have struck a snag at the White House.

A group of textile-states congressmen, including Southern senators and New England congressmen, got Senate and House Republican leaders to back an appeal to President Eisenhower to broaden a pending Tariff Commission investigation of cotton-textile imports.

The case, scheduled to go to hearings this month, was initiated by the National Cotton Council, which won Agriculture Dept. backing for the inquiry under Section 22 of the Trade Agreements Act, covering imports that conflict with domestic agricultural export price-support programs. The Cotton Council is arguing that domestic cotton-goods imports are undermining the government's price subsidies for raw cotton.

•

The mills and their congressional spokesmen asked the White House to broaden this probe to cover the direct effect of cotton-goods imports on domestic production of competing products.

However, trade experts in Washington were predicting that the White House would stick to its Section 22 approach as the hearing date neared on the theory that if the President had been willing to direct a commission study of import effect on domestic mills he had ample opportunity to do it before now.

Meanwhile, the Administration has two advisory committees looking into the over-all domestic cotton-textile-industry situation as a result of Senate hearings last year. These groups, one private, one under the Commerce Dept., are scheduled to report their findings later this year.

Fiber Identification Act Goes Into Full Effect

A new element entered textile operations for many mills and mill customers early this month. On March 3, the Textile Fiber Products Identification Act, approved by Congress on Sept. 2, 1958, went into full effect.

The purpose of the Act is "to protect producers and consumers against misbranding and false advertising of fiber content." It applies to "household textile articles," including wearing apparel and accessories [TEXTILE WORLD, July 1959, p. 43].

Although many manufacturers claim they heard about the Act only recently and by word of mouth, the regulations are now firmly in effect. Prosecution for violations will be forthcoming.

Cotton-Cloth Imports Up, Exports Down in 1959

The trend of cotton-fabrics imports and exports continued unfavorable for U. S. mills last year, according to the Dept. of Agriculture report "The Cotton Situation," released last month.

Imports in the first 10 months of 1959 were up 42.9% from the same period in 1958, climbing from 117.1-million sq. yds. in 1958 to 167.3-million last year.

Exports in the same period dropped 8.7%—from 426.4-million sq. yds. in 1958 to 392.2-million sq. yds. last year.

Imports in October last year hit a 12-year monthly high of 27.7-million sq. yds., the highest monthly total since January 1947.

of a program designed to build up the Polish textile industry.

•

Hungary Increases Latin American Trade

VIENNA—Hungary's Chamber of Commerce claims to have concluded transactions in the first nine months of 1959 with more than 20 South and Central American countries.

Among the transactions were—

- 230,000 pairs of stockings, 21,000 square meters of woolen blankets, and 109,000 square meters of cotton to Costa Rica
- 400,000 square meters of cotton cloth to Haiti
- $250,000 worth of aniline dyes to Brazil
- 60 tons of caustic soda to Argentina.

•

Labor Costs Rising In India's Textile Mills

BOMBAY—Labor costs in India are rising.

The Central Wage Board for the cotton-textile industry has unanimously recommended that operators in the industry should get an increase of $1.26 to $1.68 a month in their basic wage from Jan. 1, 1960, and an increase of $0.42 from Jan. 1, 1962. The current basic minimum wage varies according to region, being $6.30 a month in Bombay, for instance, and only $3.78 in Patna (Bihar).

But the operator's monthly basic wages are supplemented by a cost-of-living allowance linked in the main cities to the cost-of-living index. The average earnings of a Bombay operator are around $23.43 a month.

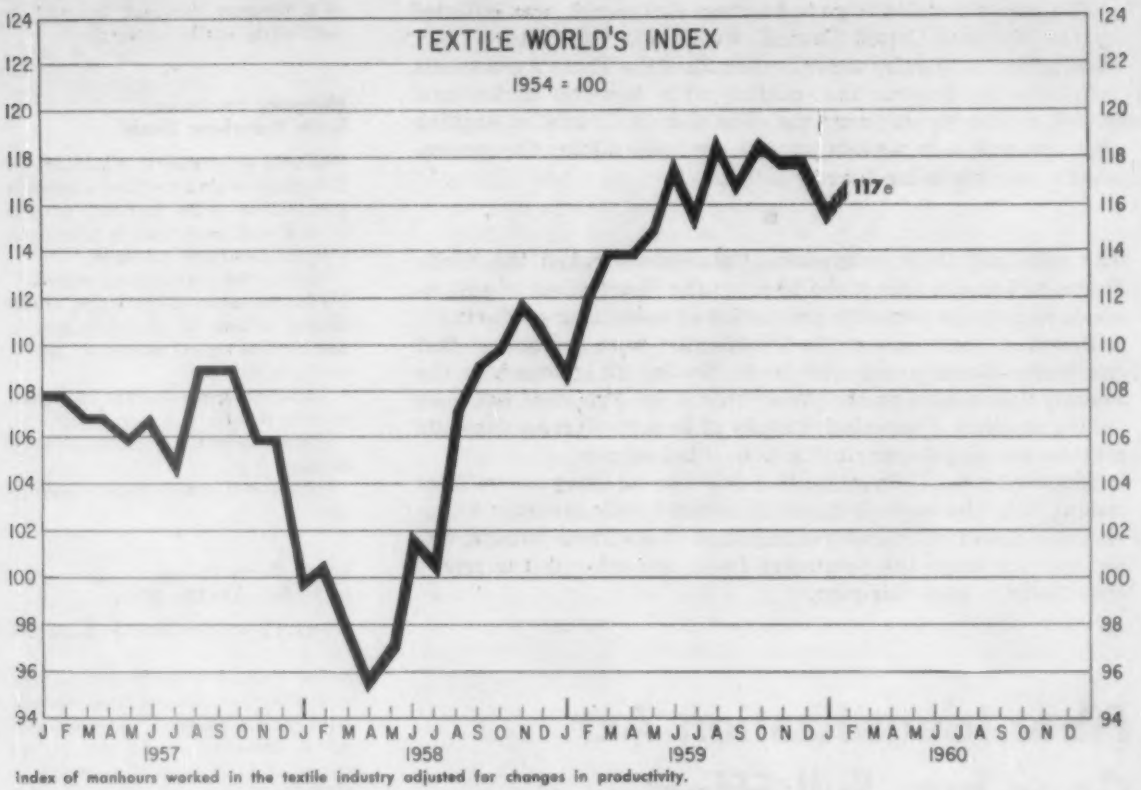
The increase in the employer's wage bill will result not only from higher basic wage payments but from the Wage Board's recommendation that 75% of the cost-of-living allowance be consolidated with the basic wage and only 25% be earmarked as cost-of-living allowance.

•

Hungary To Increase Synthetic-Fiber Production

VIENNA—Hungary plans to invest up to 1-billion Forint (a little over $85-million) a year during its Second Five-Year Plan (1960-65) in its chemical industry. Much of the investment will be for manufacturing man-made fibers.

Fiber output is scheduled to increase about tenfold, to an annual production of 3,500 metric tons, by 1965.



Index of manhours worked in the textile industry adjusted for changes in productivity.

Textile World's Monthly Indicators

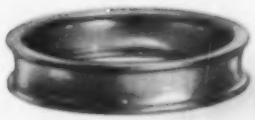
	Latest Month	Previous Month	Year Ago	
Textile World's Index (1954 = 100)	**117****	**116**	**112**	
Employment (thousands) B.L.S.	954.5	959.9	946.3	
Production Workers (thousands) B.L.S.	860.3	867.0	855.3	
Weekly Earnings B.L.S.	$64.48	$65.03	$60.74	
Hourly Earnings B.L.S.	$1.60	$1.59	$1.53	
Weekly Hours Worked B.L.S.	40.3	40.9	39.7	
Production Index (1957=100) F.R.B.	117	118	109	
Wholesale Price Index (1947-49=100) B.L.S.	96.7	96.7	93.3	
Manufacturers' Sales (million $) Commerce	1209*	1267	1079	Dec.
Manufacturers' Inventories (million $) Commerce	2490*	2542	2469	Dec.
Inventories-to-Sales Ratio	1.97	2.10	2.29	
Exports (million $) Commerce	156.7*	138.9	88.8	Dec.
Imports (million $) Commerce	104.6*	92.1	79.4	Dec.
Stock Price Index (1941-43=10) Standard & Poor's	31.04	32.06	26.07	
Failures (number) Dun & Bradstreet	6	8	5	

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947-49=100) F.R.B.	169	165	152
Consumer Price Index (1947-49=100) B.L.S.	125.5	125.5	123.8
Wholesale Price Index (1947-49=100) B.L.S.	119.3	118.9	119.2
Population (millions) Census	N.A.	N.A.	N.A.
Unemployment (millions) Census	4.1	3.6	4.7
Employment (millions) Census	64.0	65.7	62.7
Personal Income (billion $) Commerce	393.3	392.1	369.0

* Estimate for February. ** December. January is Latest Month in all other cases.

"No Finer Combination"



DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

ATMA Parade of Progress

ROBERTS SPINNING — ARROW M-1

THE FRAME PREFERRED BY SPINNERS

COTTON SYSTEM SPINNING

for carded and combed cotton short and long staple

for synthetics and blends up to 3 inch fiber lengths

yarn numbers from 2's to 120's

More than 625 of these highly productive Roberts narrow spinning frames have been bought by mills in the United States, in addition to 725 other Roberts models, all since 1956. This makes a total of 1350 Roberts frames with almost 500,000 spindles . . . unmistakable proof that Roberts Spinning is preferred by Spinners for its unmatched flexibility, higher production speeds, yarn quality and economy.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

ROBERTS COMPANY, 450 Seventh Avenue, New York 1, New York
ROBERTS COMPANY DE MEXICO, S.A.; Avenida Universidad 815-A; Puebla, Pue.; Mexico
HOBOURN-ROBERTS COMPANY, LTD.; Burton-On-Trent, Staffordshire; England

PosiWate

All three top rolls are ball bearing

Each roll has two widely spaced ball bearings

Ball bearings are lint sealed and shielded

Makes increased weight possible

Front and back top rolls interchangeable

Positive weighting and weight distribution

Same weighting spindle to spindle

Dead weighting or new cartridge weighting

Rugged arm pivots on back bar rod

Exclusive cradle support protects aprons

Cap bars completely eliminated

Proper top roll alignment

Eliminates top arm springs and small parts

Cots revolve together for easy lap removal

Standard buffing provides .001 accuracy

Easy cleaning on roll scouring cycles

ROBERTS

ROBERTS COMPANY
450 Seventh Avenue, New York 1, New York
ROBERTS COMPANY DE MEXICO, S. A.
Avenida Reforma 915-A; Puebla, Pue.; Mexico
HODGSON-ROBERTS COMPANY, LTD.
Burton-On-Trent, Staffordshire; England

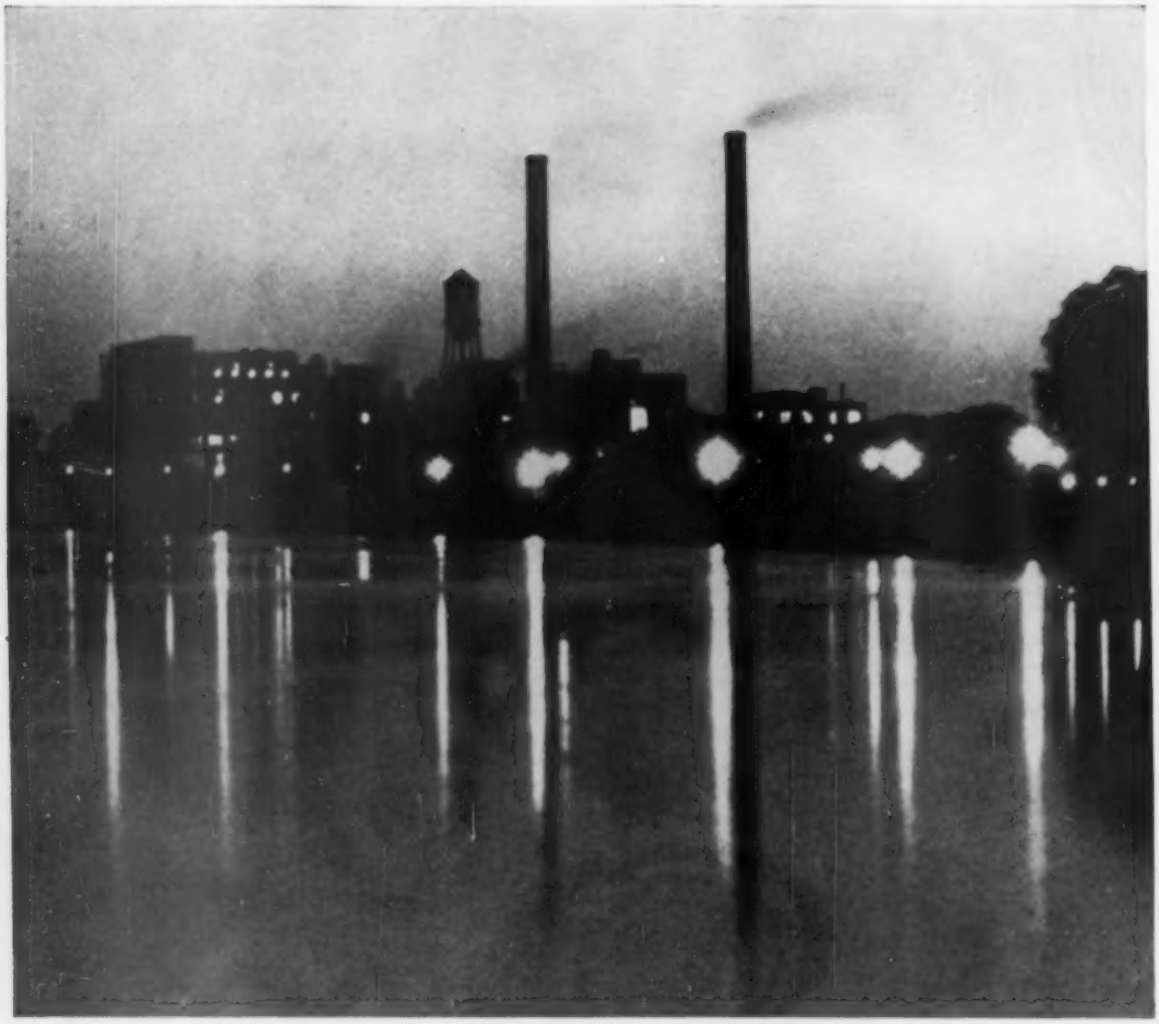
A 160,000 spindle mill thoroughly tested virtually all modern drafting systems for a six month period with positive results. Roberts Double Apron Drafting with **PosiWate** Top Roll Suspension produced yarn with the fewest ends down, best breaking strength and evenness. Besides, it was the best liked by the spinners themselves.

Roberts Double Apron Drafting is making quality yarn on more than 3½-million spindles. **PosiWate** Top Roll Suspension has been installed on more than 200,000 spindles in the past year and is being installed as a changeover for more than 30 frames every week.

PosiWate TOP ROLL SUSPENSION

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

CIRCLE 13 ON READER SERVICE CARD



24 HOURS A DAY

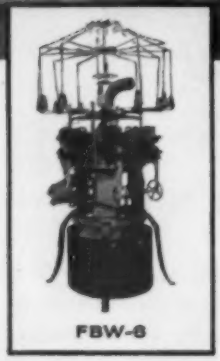
A Better Cloth for you with Clinton Products from corn

Clinton Starches provide better results in sizing warps because of uniform application of size, and increased starch penetration for smooth warps and minimum shedding at the slasher and loom. See your Clinton salesman today.

CLINTON TECHNICAL SERVICE is freely available upon request.

CLINTON

CLINTON CORN PROCESSING COMPANY, CLINTON, IOWA

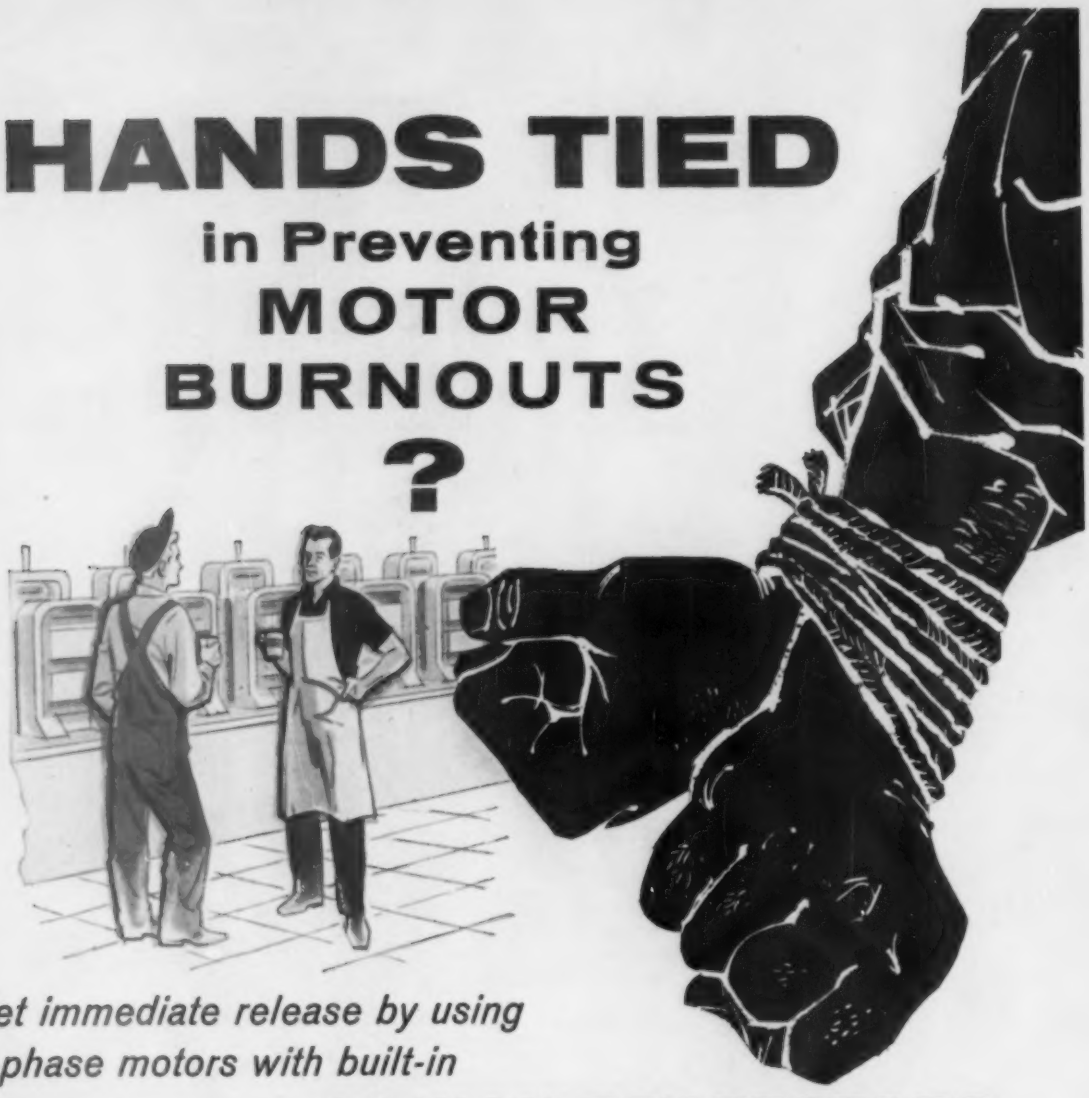


Knitted Elegance

"Elegant" . . . . . the only way to describe the luxurious coat fabrics produced on Wildman Jacquard "Hi-Pile" knitters. • *"Versatile"* best describes the capabilities of this unique machine. With a range of fabrics from glamorous outerwear to industrial coverings, the Wildman Jacquard "Hi-Pile" knitter is a sound investment • For complete information write:

WILDMAN JACQUARD

HANDS TIED
in Preventing MOTOR BURNOUTS ?



Get immediate release by using 3-phase motors with built-in

KLIXON PROTECTORS

Here's What KLIXON Protection Gives You: ● *Maximum Motor Output* ● *Reduced Motor Repairs and Replacements* ● *Less Production Down Time*

Motor burnouts due to overheating need not occur in your plant, not if you specify and use three phase motors that have built-in KLIXON Protectors.

Built-in by the motor manufacturers, KLIXON Protectors safeguard motors from overheating due to — prolonged overloads, unbalanced voltage, stalling, failure to start, increased ambient temperatures, lack of ventilation, plugging or reversing duty, and single phasing.

Here's how they operate — should the motor become overheated from any of the above conditions, the KLIXON Protector snaps the power "off". As soon as the motor cools to safe operating temperature, it snaps the power "on" again permitting normal operation.

Guard against motor burnouts in your equipment by specifying KLIXON protected motors on new equipment . . . replacing old motors with KLIXON protected motors.

KLIXON protected motors are available from your motor supplier. Ask him about it. The savings are great, the additional cost is slight. Write for bulletin PR-1243, today.

TEXAS INSTRUMENTS
INCORPORATED
METALS & CONTROLS DIVISION
5503 FOREST STREET • ATTLEBORO, MASS.

SPENCER PRODUCTS

Spencer Products: Klixon® Inherent Overheat Motor Protectors • Motor Starting Relays • Thermostats • Precision Switches • Circuit Breakers

"How Good a Supervisor Am I?"

• Here's a chance to check your own performance in some key areas of your job and to help yourself answer the ever-intriguing question, "How am I doing?"

By **AUREN URIS**, Research Institute of America

THE STORY is told of two psychiatrists meeting in the street. Says one to the other, "*You're* fine; how am I?"

If the principals were two supervisors, the words would be the more normal, "I'm fine; how are you?"

Supervisors are likely to be more self-centered than psychiatrists. But professional habits aside, we all feel qualified to pass judgment on ourselves. Trouble is, there's a tendency to view ourselves with an overly fond eye. For many people, esteem as well as charity begins at home. We think we're doing O.K., and we may be wide of the mark. Actually, we may be doing better—or worse—than we estimate.

And that can be harmful. A lopsided view is bound to affect our relations with the work group and, accordingly, interfere with our job performance.

Fortunately, there's one judgment that is more objective, and more helpful.

What a Study Revealed

Scientists of the University of Michigan's Survey Research Center compiled the opinions that office and factory employees had of their supervisors. The study is especially valuable because it brings out differences in employee attitudes and expectations that might not have been made clear without the benefit of the cross-business comparison.

The study, conducted by Dr. Daniel Katz and Dr. Robert Kahn, polled the opinions of 6,000 employees. Here is a tabulation that shows how the employees felt supervisors stacked up in some key functions:

	White-collar workers	Blue-collar workers
Supervisor gives help when I really need it	80%	72%
Supervisor reasonable in what he expects	78	65
Supervisor will go to bat for me	72	58
Supervisor takes interest in me and understands my problems	64	54
Satisfied with progress in company up to now	65	64
Company makes real effort to place people in jobs they do best	52	39

What accounts for the relatively poor showing of industrial supervisors? Several facts suggest themselves:

1. Industrial supervisors usually are responsible for larger work groups than their white-collar counterparts. Accordingly, requirements of individual employees are more likely to get lost in the shuffle.

Remember that usually you're dealing with individuals rather than the group as a whole. "Group attitudes" in this case are the total of your successes and failures with individual employees.

2. Note the low percentage—even in the white-collar group—who feel, "Company makes real effort to place people in jobs they do best."

One explanation for the very low response in the industrial group is that there actually is a greater variety of jobs available and therefore more neighboring fields in which the grass can look greener.

Obviously, an employee who feels misplaced, regardless of the facts in the case, is less likely to rank high in job satisfaction.

But the answers to another question cast a most revealing light on job satisfaction:

3. Note the relatively high scores of both employee groups on the item, "Satisfied with progress in the company up to now."

The fact that so many employees are satisfied implies two things:

a. They're pretty realistic in their job aspirations.
b. It's probably in the minor details of their work progress—and that means in their day-to-day relations with their supervisors—that their dissatisfaction arises.

PLEASE TURN THE PAGE

Your Own Department

Careful analysis of the separate factors that cause unfavorable employee attitudes can help you head them off.

Rate yourself as objectively as possible on the following questions:

	Yes	No
1. Do I give adequate instruction with each assignment?	____	____
2. Am I patient when mistakes are made?	____	____
3. Do I explain the reasons when I must turn down requests?	____	____
4. Do I listen to employee grievances?	____	____
5. Do I give recognition for good work?	____	____
6. Do I place people in jobs they do best?	____	____
7. Am I reasonable in my expectations?	____	____
8. Do I delegate responsibility whenever it is possible?	____	____
9. Do I do my best to interpret company policy?	____	____
10. Do I try to stimulate group feeling?	____	____
11. Do I help the people who want to better themselves?	____	____
12. Do I try to take an interest in the job problems of individuals?	____	____

Questions answered *No* are likely to be areas of dissatisfaction with your people. If you've got any checks in the *No* column, watch for the work situations in which they appear.

The value of the questions above lies in the fact that they help you answer the question, "How am I doing?" from the employees' viewpoint. And while you're at it, look back at the tabulation based on the Survey Research Center study. Asking yourself how your people would respond gives you another possible answer to that ever-intriguing question, "How am I doing?"

Humanics — A TW Brief

When Do You Say It?

In communicating with your people —anything from giving orders to interviewing a returning absentee—it isn't only what you say but when you say it that determines the result.

Many a wife has been driven to distraction because she made the mistake of giving her husband a number of shopping errands while his eye was on the morning newspaper.

And consider the case of the supervisor who undertakes to clear up the mysteries of a new color-testing machine for an employee. It is 11:55 and the girl has a lunch date. With one eye on the clock and her mind on what she is going to say to the boy friend, she's not likely to absorb the details.

The *when* element, often neglected in discussions of communication, requires your consideration as much as the *how*, *what*, and *why*.

Pitfalls of Timing

You can't always choose the time when you communicate with employees. But take the subject of instructions. There are certain occasions when you can be pretty sure they won't stick:

. . . just before lunch or a scheduled break;

. . . just after a meal;

. . . the end of a shift.

It's possible to go a good deal further in this matter of timing. There are not only situations to avoid, but there are also positive guides that can help you increase the effectiveness of your communications:

1. When you are not under pressure. The boss is calling you on the phone, an emergency has cropped up on one of the machines, a messenger from the personnel department is waiting to pick up a special report. You're not likely to be able to conduct a clear-minded talk with an employee about a suggestion he has made.

2. When the employee is free of pressure. Trying to explain a new idea to a man who is tired or distracted means only half your words will get through. You increase the effectiveness of your communication by getting the employee to step away from his machine or stop what he's doing long enough to be able to concentrate on your talk.

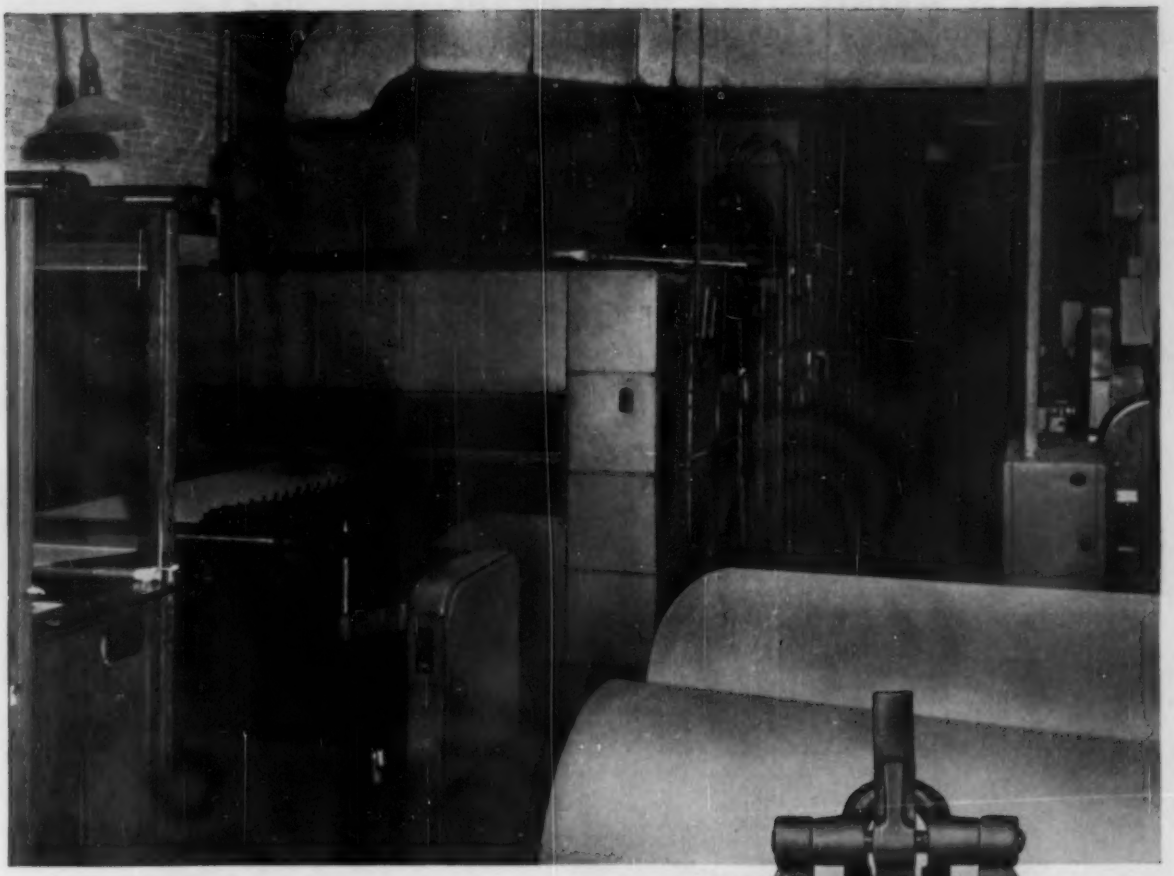
3. Strike while the iron is hot. Some communications are best delivered at the earliest possible moment. Congratulating an employee because he's become a father, won a promotion, or recovered from an illness is most appropriate when it's done early.

4. Strike while the iron is cold. Some communications will be most effective when they are not delivered in the heat of the moment. That's why the seasoned supervisor says; "I know you're too upset to discuss the quarrel now. See me at the end of the rest period."

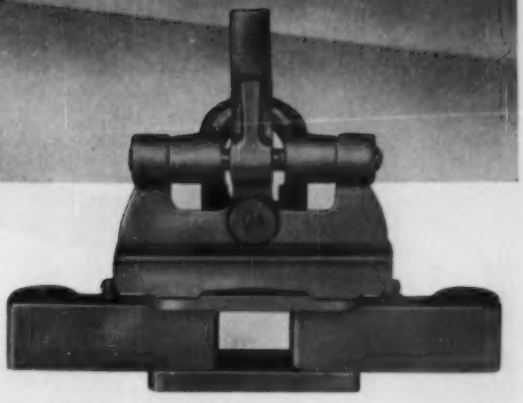
Payoff

A sense of timing in communicating with your people can be of real value. It pays off by reducing the amount of time you have to spend in repeating yourself, as well as increasing the impact of your message. It means fewer time-consuming errors, less need for, "Do the job over, and this time do it right."

Your contacts with employees will be more effective—you will get what you want when and how you want it —if you watch your timing.



Butterworth Tenter Range at Aurora Bleachery, Inc., Aurora, Illinois.



Latest design Butterworth #45 Tenter Link has a malleable iron nipper with self-aligning, stainless steel insert and shoe.

Links that wouldn't wear out...

Aurora Bleachery installed a Butterworth Tenter Range in 1945. Here's what E. T. Gurry, President, said 14 years later:

"This Tenter Range, which handles cloth from the white bins to the winder, operates at 150 yards per minute average speed, ten hours a day, five days a week.

"You told us in 1945 that we could expect longer service from your Tenter Links because of the new hardened steel construction and precision ground surfaces. How right you were! After 14 years, there is no apparent wear on the Tenter Links.

"The removable top, which I understand was pioneered by Butterworth, is another important feature. By removing a single bolt, the operator can lift the top section without removing the base of the chain. This not only saves maintenance time but gets the range operating very quickly when a top section needs changing during operations . . . Butterworth Tenter Links run smoothly and quietly at high speeds, and the service life is exceptional."

Aurora found it pays to put Butterworth in their machinery plans, and so will you.

BUTTERWORTH

VN

Division of VAN NORMAN Industries, Inc.

H. W. BUTTERWORTH & SONS CO., Bethayres, Pa. • Since 1820

In the South: Industrial Heat Engineering Co., Greenville, S. C.

In the North: United States Supply Co., East Providence, R. I.

MODERN DYEHOUSE EQUIPMENT

THE DEPENDABLE KWG SKEIN DYEING MACHINE

KWG Double Reel Skein Dyeing Machine —all stainless steel unit built in capacities to 1000 pounds.

FOR QUALITY DYEING

WITHIN INCREASED BUT MORE NORMAL TEMPERATURE and PRESSURE LIMITS

Perfection in dyeing—for natural and the new synthetic fibers—is yours with KWG Skein Dyeing machines. Rugged construction . . . improved 'Ferrous-Wheel' performance . . . give you the penetration and evenness of color—the permanence of tone—for that extra measure of sales appeal—without concern for costly high-temperature, high-pressure methods. Dual-operations possible including scouring, dyeing and shrink-proofing, or scouring, bottom bleaching and dyeing of pastel shades.

You can point the way to extra sales . . . extra profits . . . today by writing Klauder Weldon Giles. A KWG representative will be glad to survey your needs. If necessary, he'll design special equipment to your specifications. There's no obligation.

Klauder Weldon Giles MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET • PHILADELPHIA 24, PA.

CALENDAR

March

Fiber Society, spring meeting, Roosevelt Hotel, New Orleans, La., March 10 & 11

Southern Textile Methods & Standards Association, spring meeting, Clemson House, Clemson, S. C., March 17 & 18

Textile Quality Control Association, spring technical meeting, Dinkler Plaza Hotel, Atlanta, Ga., March 24 & 25

Textile Research Institute, annual meeting, Hotel Commodore, New York, N. Y., March 24 & 25

Material Handling Institute, Inc., Pittsburgh Hilton Hotel, Pittsburgh, Pa., March 28 & 29

ASME, Textile Engineering Conference, North Carolina State College, Raleigh, N. C., March 31 & April 1

April

AATCC, Piedmont Section, Hotel Robert E. Lee, Winston-Salem, N. C., April 2 & 3

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., April 6

American Cotton Manufacturers Institute, annual meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla., April 7 to 9

Alabama Textile Manufacturers Association, annual meeting, Buena Vista Hotel, Biloxi, Miss., April 20 to 22

National Association of Hosiery Manufacturers, annual meeting, Americana Hotel, Miami Beach, Fla., April 21 to 24

Underwear Institute, annual meeting, Hotel Biltmore, New York, N. Y., April 29

May

Georgia Textile Manufacturers Association, anniversary meeting, Diplomat Hotel and Country Club, Hollywood, Fla., May 19 to 21

American Textile Machinery Exhibition, Atlantic City Auditorium, Atlantic City, N. J., May 23 to 27

Tufted Textile Manufacturers Association, annual convention, Fountainebleau Hotel, Miami Beach, Fla., May 25 to 28

South Carolina Textile Manufacturers Association, annual meeting, The Cloister, Sea Island, Ga., May 26 to 28

11th Annual Cotton Research Clinic, Grove Park Inn, Asheville, N. C., May 31 to June 2

June

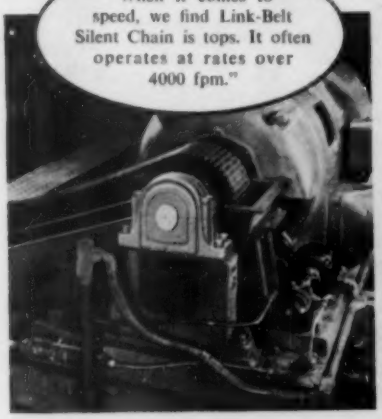
Southern Textile Association, annual convention, Grove Park Inn, Asheville, N. C., June 23 to 25

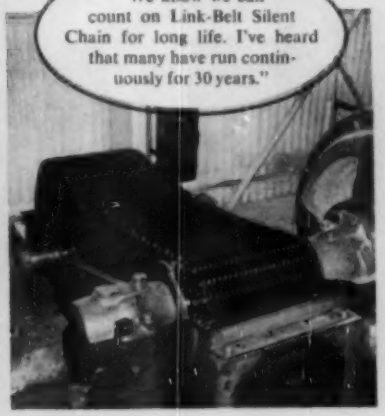
October

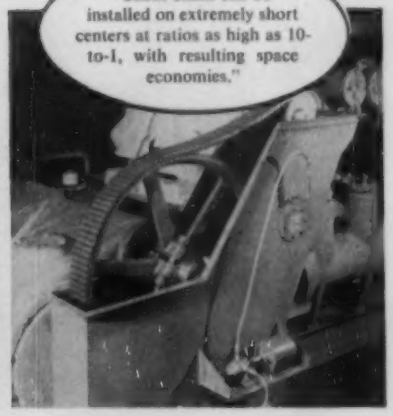
21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

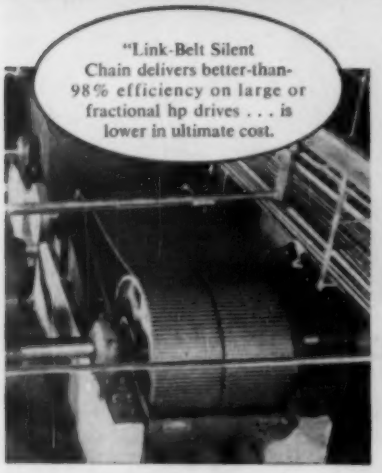
"Join me on a plant tour . . . see why

we're modernizing our drives with Link-Belt Silent Chain"









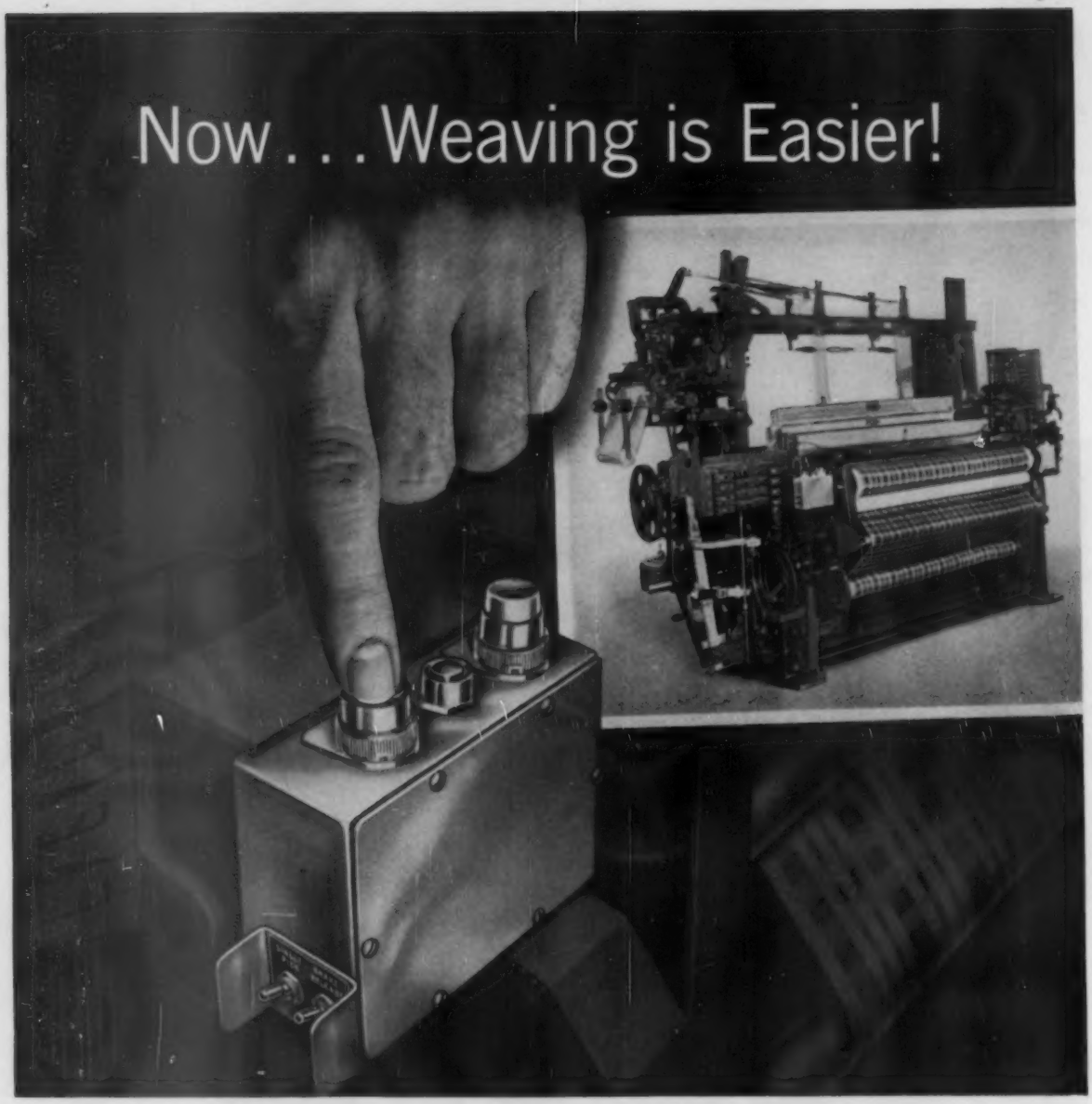
LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

FULL DETAILS on Link-Belt Silent Chain are offered in 88-page Book 2425. Get your copy from your Link-Belt office or authorized stock-carrying distributor. Look under CHAINS in the yellow pages of your phone book.

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Warehouses, District Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World.

Now . . . Weaving is Easier!



THE NEW C-7 LOOM WITH THE ELECTRIC BRAIN

- ***Simplifies training of new weavers.***
- ***Combined with push buttons, reduces fatigue, lets the weaver spend more time weaving.***

The electric control is convenient, positive, and eliminates the heavy manual work. It's as easy to operate as flicking a light switch. No more shipper handles to pull, no more tugging on the handwheel. For start or stop, there are only two buttons to push. For jog reverse, a third button is used. A flick of a switch is all it takes to change to controlled single pick operation.

A weaver with a minimum of training can operate this loom safely despite high speed.

Lay reverses and shed opens automatically after a broken pick. Less weaver fatigue will help produce better quality and should allow increased work assignments.

A new electric brake and clutch drive has a flywheel effect for steadier operation, especially picking. Electric protection provides time for softer stops. The new electric control is safe. Takes less voltage than a toy electric train.

If you want to boost the efficiency, product quality, and employee morale of your mill, here's a loom that bears investigation.

For fancy cottons, synthetics, terry towels, and ginghams.

CROMPTON & KNOWLES
Corporation
MANUFACTURER OF
THE WORLD'S LONGEST LINE OF AUTOMATIC BOX LOOMS
WORCESTER, MASSACHUSETTS

C&K

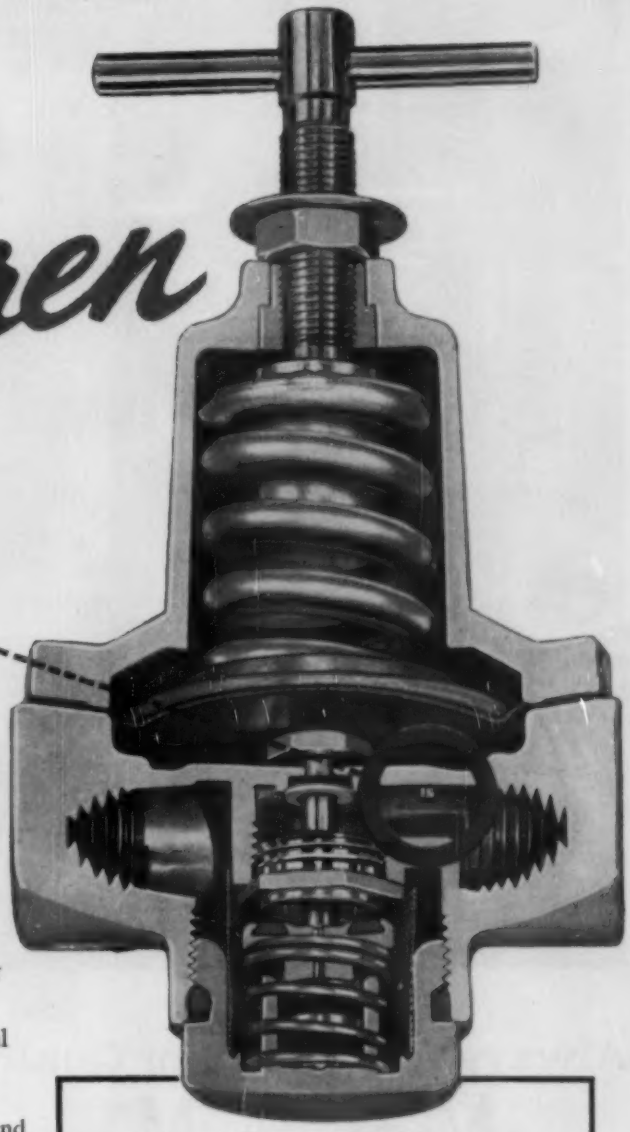
CHARLOTTE, N.C. • ALLENTOWN, PA. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R.I. • Crompton & Knowles of Canada, Ltd., Montreal, Quebec

All Pressure Regulators are not alike

Norgren

Baffle and Siphon Tube Construction

provides more uniform regulated pressure as flow demand changes



In the ideal pressure regulator there would be no change in the regulated pressure no matter how wide the variations in the flow rate.

Norgren Pressure Regulators approach this ideal by providing a baffle and siphon tube feature. This increases the sensitivity of the valve to changes in the flow rate through the regulator and provides better performance and a more uniform regulated pressure over a wide range of flow rates.

The baffle protects the diaphragm from pressure shock and abrasive action. This gives you longer regulator life, more dependable operation and minimum maintenance.

For complete information on all your regulator needs, ⅛" to 2", call your nearby Norgren Representative listed in your telephone directory- or WRITE FACTORY FOR DESCRIPTIVE LITERATURE.

Norgren Pressure Regulators give you these important features:

- Balanced Valve Construction — improved regulator performance
- Large Nylon-reinforced Buna N Synthetic Rubber Diaphragm — long service life
- Baffle Plate and Siphon Tube — increased accuracy
- Large Passages and Valve Openings — large flow capacity
- Easy servicing while still on air line
- Flexible Valve Pin — assures better seating

FOUNDED IN 1926

C. A. NORGREN CO.

3404 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

Amco Heliclone Loom Cleaner in Mayfair Mills, Arcadia, S. C.

Always "Working For Quality" at MAYFAIR MILLS...

AMCO HELICLONE® LOOM CLEANERS

Amco Heliclone Loom Cleaners, which provide automatic, continuous cleaning of 1676 looms at Mayfair Mills, are helping this famous manufacturer maintain his reputation for superb quality and top efficiency.

For the complete money-saving facts about Amco Loom Cleaners, call the American Moistening Company — an organization with more than 70 years' experience serving the textile field.

Rotating nozzles driven by air streams form overlapping circular paths. Results: high velocity bursts of air over loom and warp surfaces for best cleaning. Supplementary outlets clean track and ceiling.

AMCO

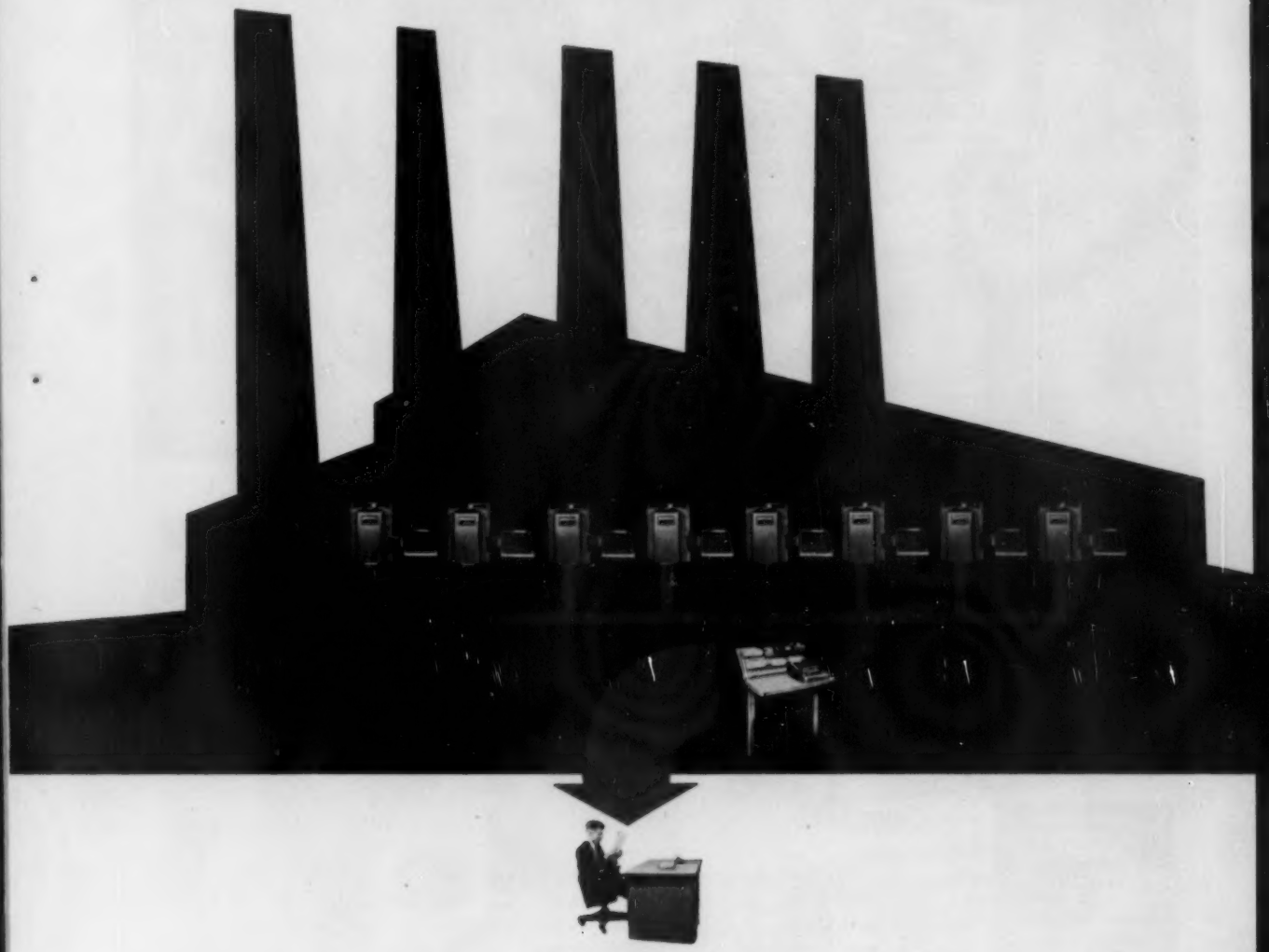
Since 1888

Air Conditioning Equipment — Textile Specialties

American Moistening Company, Cleveland, North Carolina
Branches: Atlanta, Ga., Providence, R. I., Toronto, Ont.

Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

do you get production reports in time for a decision...or a post mortem?



IBM 357 Data Collection System speeds "live" production data to management in time for action

Production line data must be "live" if it's to be of use in management decisions. The new IBM 357 Data Collection System now makes this information available as soon as it occurs . . . in readily usable punched card form. The IBM 357 greatly increases the volume and speed of data flowing from production line to management, yet drastically reduces the amount of paper work involved.

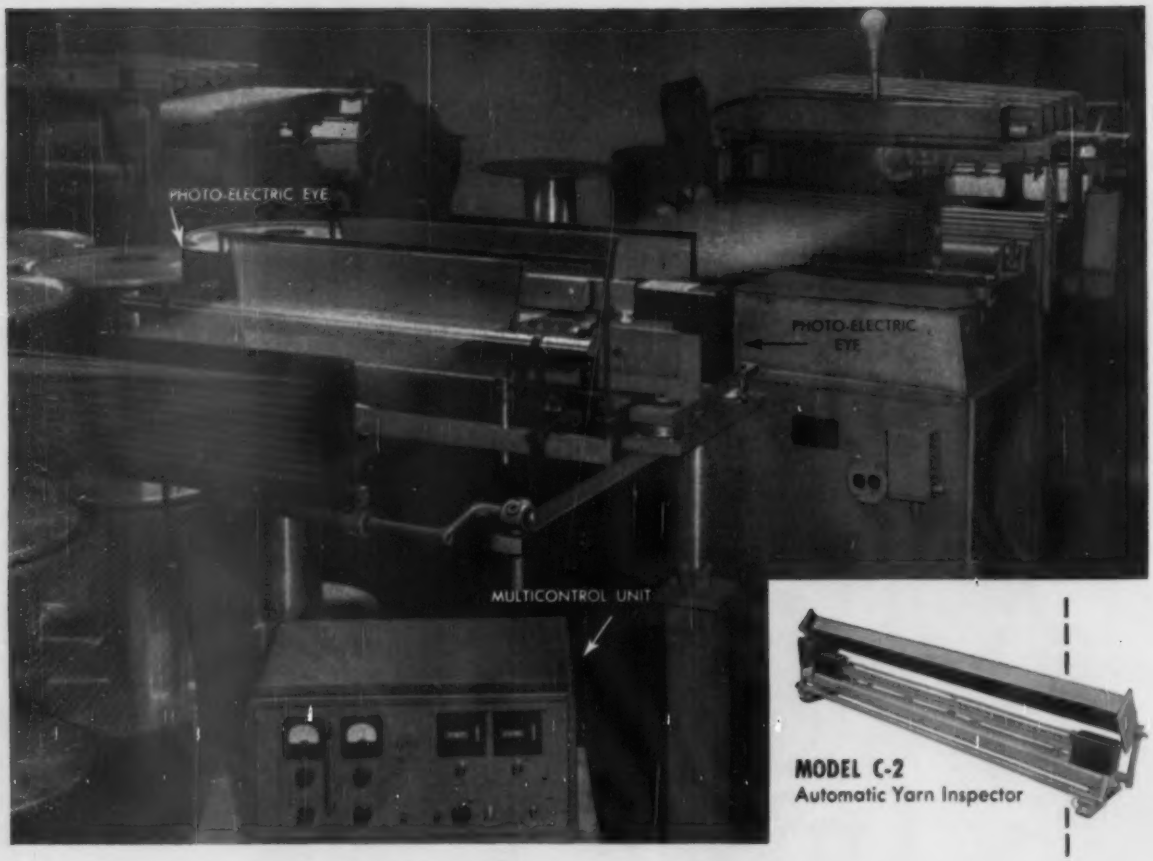
Each central receiving station of an IBM 357 System is served by up to 20 compact, wall-mounted input stations, strategically located near work areas to receive data directly from the production line. Facts fed into the input station are flashed to the recording center and automatically punched into IBM cards, ready for processing. The IBM 357 System is compact, economical, flexible. It can be expanded or modified at any time to handle changing needs.

Your local IBM representative can tell you about the money-earning advantages of the new IBM 357 . . . call him today. The IBM 357 Data Collection System, like all IBM data processing equipment, may be purchased or leased.

balanced data processing

IBM®

CIRCLE 25 ON READER SERVICE CARD



MODEL C-2
Automatic Yarn Inspector

Inspect Warps the Lindly Way - Electronically

Save Labor – Improve Quality – Reduce Mending

The Lindly Automatic Yarn Inspector is a high speed, ultra sensitive photo-electric instrument for detecting defects in synthetic yarn warps, such as strip-backs, fluff balls and broken filaments — is in world wide use by yarn producers, warp knitters and weavers.

It can be set up to count defects, or to stop the warper for defect removal, or to do both — automatically — and offers the following advantages: —

1. One operator can watch two or more machines.
2. Number of imperfections in the completed warp can be accurately controlled.
3. Increased production due to warper speedup.
4. Fewer knitting machine or loom stops caused by yarn defects.

Find out how the Lindly Automatic Yarn Inspector can save money and improve quality for you. Send to Dept. TW-3 for Automatic Yarn Inspector Bulletin.

OTHER LINDLY ELECTRONIC PRODUCTS

Electrotense
for automatic control of yarn tension

•

Photo-Scanner
for detecting fabric defects while tricot knitting

•

Dyna-Micro-Gage
for continuous monitoring of yarns, spinneret gauging, etc.

•

Lind-Recorder
for recording events of on-off or yes-no nature

ATMA
American Textile Machinery Exhibition - International
Parade of Progress
ATLANTIC CITY, U.S.A.
MAY 23-27, 1960

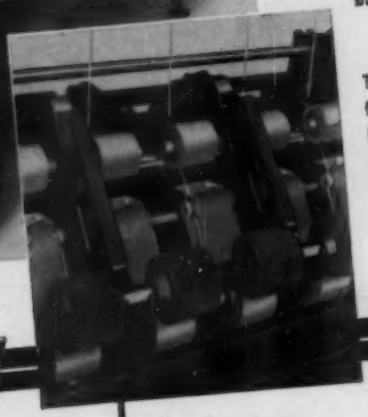
861-9

FOSTER MACHINE COMPANY

Electronics Sales Division, Department TW-3
Westfield, Massachusetts, U. S. A.
Southern Office, Johnston Bldg., Charlotte, N. C.

INTRODUCING... the PIEDMONT AMERICAN SYSTEM Spinning Frame

20-30% Higher Production!



The new Whitin PIEDMONT* AMERICAN SYSTEM* Spinning frame provides the highest standards ever attainable in producing worsted, synthetic and blended yarns. The thoroughly proven Whitin LONG-DRAFT* two apron system and a new, efficient top arm are mounted on the chassis of the advanced type PIEDMONT chassis.

It offers production speeds up to 20-30% higher than now used, with traverses up to 11".

FEATURES

- Narrow width — 27"
- Individual spindle drive from side shafts
- Straight line spinning
- Scientific balloon control rings
- Independent and reverse twist arrangement
- Simplified gearing, new builder
- Built-in system for waste-removal and dispersing motor heat

The PIEDMONT Model KW Spinning frame requires less floor space, far less cleaning and maintenance, is clean running, providing optimum spin. Investigate now and get maximum profits in your mill!

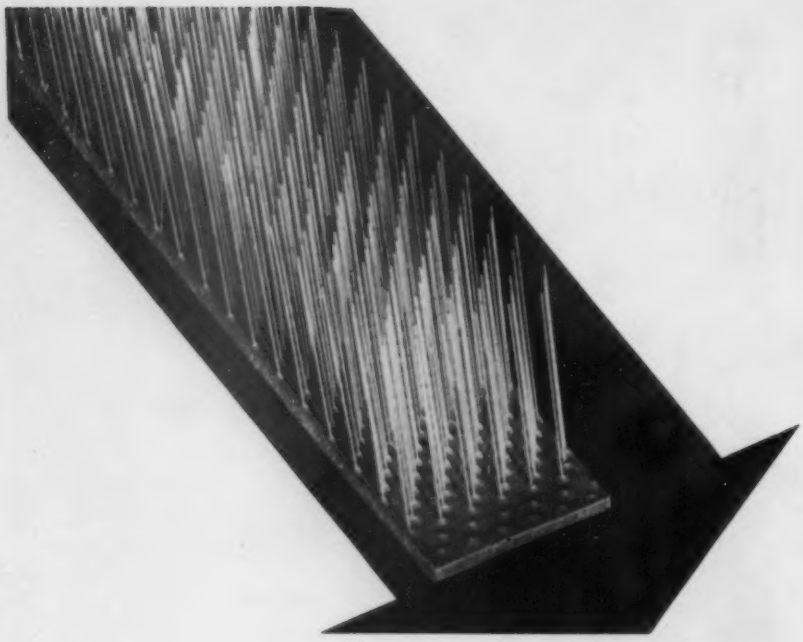
*TRADEMARK

WHITIN MACHINE WORKS

WHITINSVILLE MASSACHUSETTS

CHARLOTTE, N. C.

GREENSBORO, N. C. • ATLANTA, GA.
SPARTANBURG, S. C. • DEXTER, ME.



Straight as a Ramrod
Perfect in Alignment—

that's Tuffer TRADE MARK

The carefully ground teeth of Tufferized Card Clothing are set with military precision in Tuffer foundation to suit the individual job.

These tough wires stand straight and firm as a ramrod, with just the proper flexibility, and with every point in exact position.

Tuffer precision craftsmanship produces the consistently uniform Card Clothing you want for a smooth, even sliver with minimum variation.

You're sure of maximum production with Tuffer. For special problems, a Tuffer sales engineer with access to the accumulated manufacturing experience of more than 90 years, is always available.

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.

Direct Representation in Canada

YOU'LL GET WATCH MAKER'S PRECISION WHEN YOUR "SPECS" READ HYATT

Holding roller diameter variation to 50 millionths of an inch is neither impossible nor impractical for Hyatt. With the help of automated precision equipment, we do it every day. For it takes precise and exacting care to build unsurpassed reliability into a Hyatt Hy-Roll bearing. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

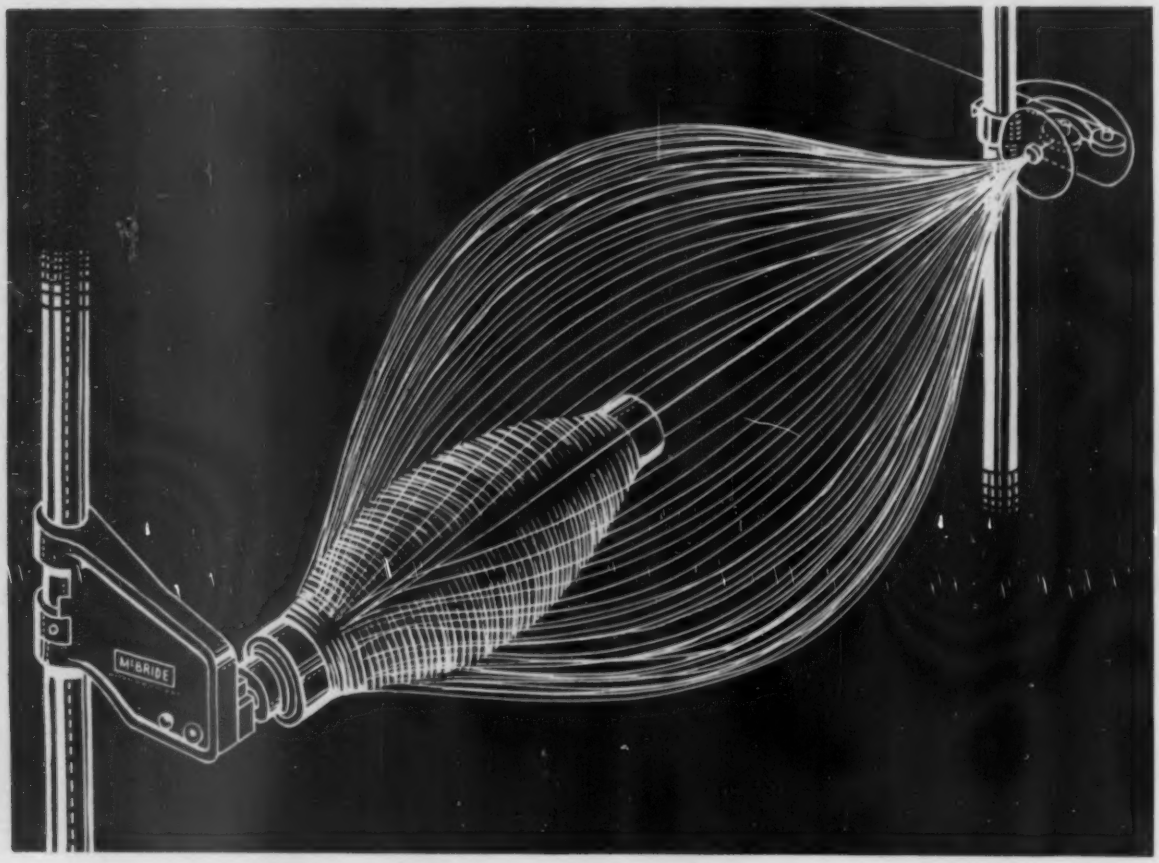
Replacement bearings available through United Motors System and its authorized bearing distributors.

HYATT *HY-ROLL BEARINGS*

IN ROLLER BEARINGS HYATT IS THE WORD FOR GM RELIABILITY

CIRCLE 29 ON READER SERVICE CARD

BE ON TARGET WITH McBRIDE...



HEAVY DUTY CREEL ARMS

Are your creel arms overloaded? Have you a problem reaching the target (entrance eye) on your tensions? If so you are losing warping efficiency. McBride's heavy duty package arm is designed specifically to correct this situation!

No Sag—even the largest packages stay straight on target for accurate over end draw off.

Fast Change—arm swings back out of way for package change, no interference with ballooning yarn.

McBride swing arm assemblies are made to fit all packages.

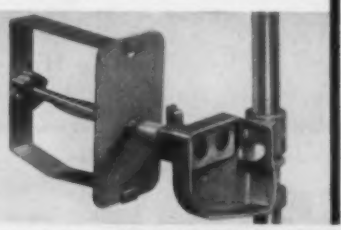
Instant changeover with McBride Quik change cone and large diameter package holders.

Complete new creels or fittings to modernize your existing creels.

Write today for our latest catalog.

UNIVERSAL CONE HOLDER

LARGE DIAMETER PACKAGE HOLDER



MERCURY SWITCH STOP MOTION

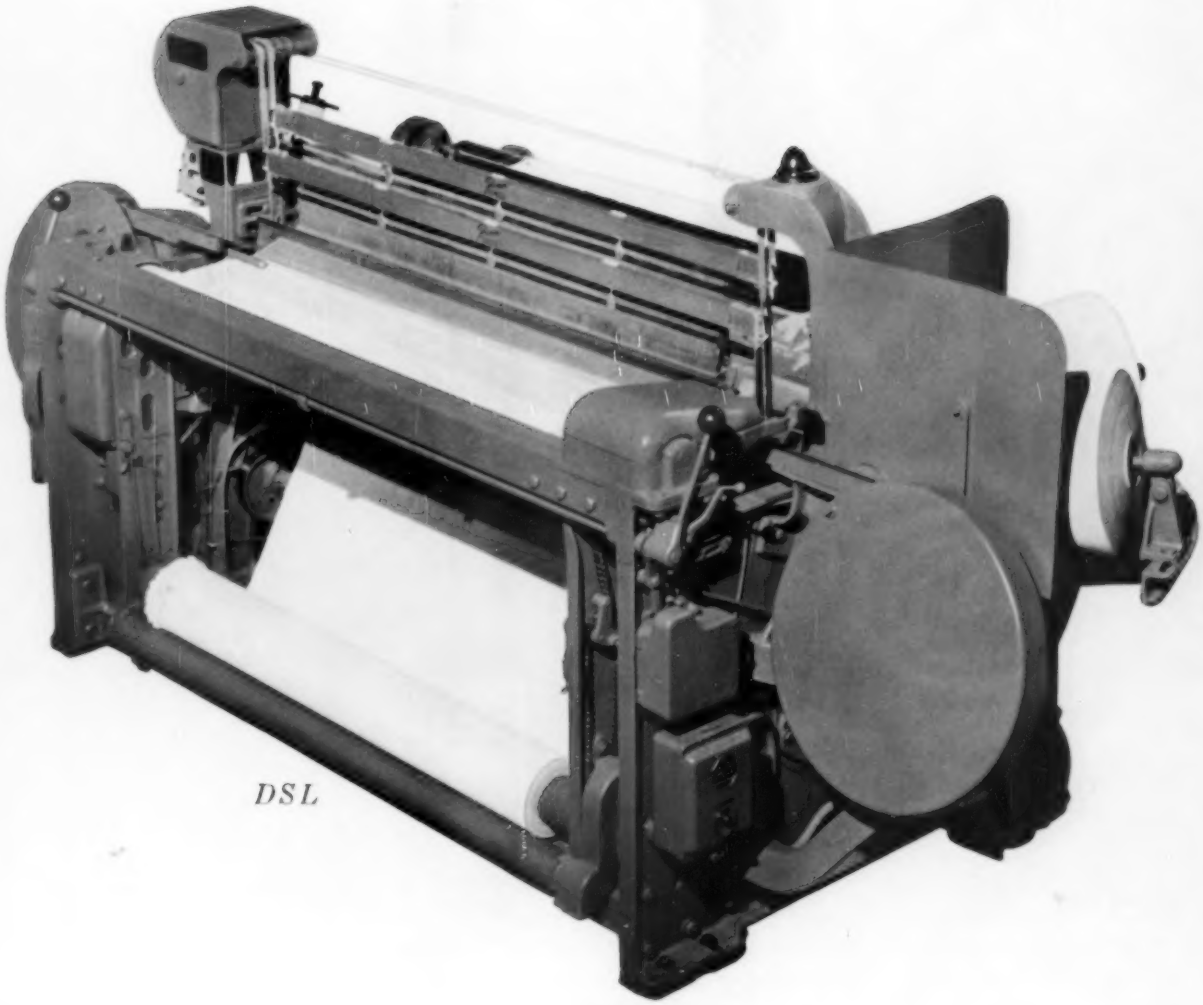
LET McBRIDE STUDY YOUR WARPING SITUATION. YOU MIGHT BE SURPRISED WITH THE COSTS YOU CAN SAVE, THE IMPROVED QUALITY IN THE WARPS YOU PRODUCE
CREELS *FOR EVERY PURPOSE* CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.

McBRIDE

Complete engineering service is part of every McBride installation.

COTTMAN AVE. & WISSINOMING ST. • PHILADELPHIA 35, PENNSYLVANIA

In Canada: Hugh Williams & Co., 27 Wellington St., E. Toronto 1, Ontario



DSL

Newest
member
in our
family
of
Looms

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

You get additional operating profits with Built-in Economy Features

of BAHNSON COLLECTO-VAC

You can plan for additional operating profits with the extra quality design features of Bahnson's Collecto-Vac for collecting broken ends, lint and fly. Its anodized aluminum flutes neither crack nor warp, thus eliminating replacement costs . . . its rugged all-steel collection box provides durable service indefinitely . . . its scroll type fan gives maximum air handling, helps air distribution in the room by dispersing motor alley heat . . . it has quick, easy access for maintenance.

Collecto-Vac's superior construction enables it to reduce ends down more efficiently, to minimize slubs and gouts, to keep frames and room cleaner. Ask any mill man who has Bahnson Collecto-Vac. Fill in the coupon below for free informative bulletin.

Clip coupon to letterhead. Mail today for Free Illustrated Bulletin 30A.

Name_____

Bahnson

AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.

Lacquer-tipped cone inspection at Sonoco.

Lacquer-tipped cones—another Sonoco "first"

The first lacquer-tipped cone was developed by Sonoco more than 25 years ago. It provided a new and improved method for yarn identification and gave the industry a smooth, hard nose surface for better yarn processing.

Perfecting the Sonoco lacquer tip required ingenious research and skilful experimentation. Special machinery has been designed and built for its economical production—continuous research maintains its quality.

Sonoco lacquer-tipped cones are typical of the dependable products manufactured by a fully integrated company with 60 years' experience in creating and producing all types of textile paper carriers. Only Sonoco, in its field, provides the necessary knowledge, skill and capacity to meet the ever-changing techniques of the textile industry. Let Sonoco experience help you!

SONOCO

Products for Textiles

SONOCO PRODUCTS COMPANY

ATMA
American Textile Machinery Exhibition - International
Booth Nos. 82 and 83
May 23-27, 1960

Main Office—Hartsville, S. C. · Mystic, Conn. · Akron, Ind. · Lowell, Mass. · Phillipsburg, N. J. · Longview, Texas · Philadelphia, Pa. · La Puente, Cal. · Fremont, Cal. · Atlanta, Ga. · Granby, Quebec · Brantford, Ontario · Mexico, D. F.

CIRCLE 33 ON READER SERVICE CARD

James Moore (right), overseer of spinning at Blair Mills, Belton, South Carolina, checks yarn quality with Armstrong district manager J. V. Ashley.

Accotex Cots can help you get high production of quality yarn

Maximum production of quality yarn: that's the key to profitable spinning and the goal of every spinning room overseer.

Armstrong Accotex Cots can help you get this kind of performance by minimizing such sources of trouble and expense as front roll laps, eyebrows, and yarn irregularities. The broad line of Accotex Roll Covers includes materials specially compounded to combat these common spinning problems.

Many mills have found, for example, that a switch to Accotex J-490 Cots . . . or one of the new Accotex anti-static compounds . . . will reduce front roll lapping to a minimum.

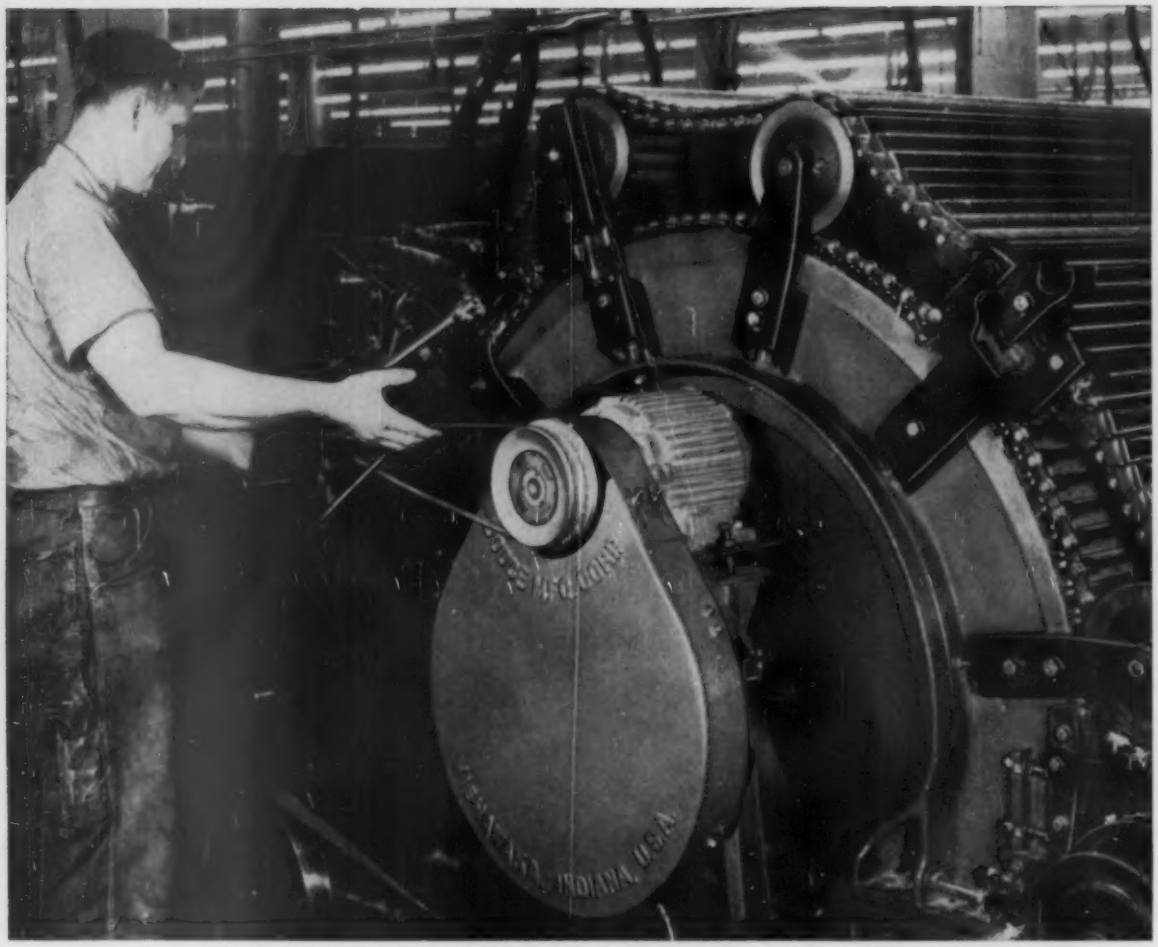
Where eyebrowing is excessive on your roving and spinning frames, Accotex NC-762 Cots . . . one of the new anti-static materials . . . will help to control it. And on some drafting systems, new, softer Accotex compounds are being used to improve break strength and reduce yarn irregularities.

Whatever your frame or fiber, there's an Accotex Cot that will help you turn out strong, uniform yarn. Your Armstrong man will be glad to work with you in selecting the cot best suited to your requirements. Call him or write to Armstrong Cork Company, Industrial Division, 6503 Dauphin Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX COTS

1860–1960 Beginning our second century of progress

CIRCLE 35 ON READER SERVICE CARD



INDIVIDUAL CARD DRIVE GIVES SOFT STARTS

...ACCELERATES QUICKLY TO FULL SPEED

...AVOIDS EXCESSIVE STRAIN

Flexidyne, heart of this new complete Card Drive by Dodge, picks up the load smoothly... protects machinery and motor against shock and overload... delivers 100% efficiency during running cycle. Flexidyne, *the Dry Fluid Drive*, eliminates need for high torque motors and expensive controls, saves power, provides a new and better way to drive textile machines.

Note the special aluminum pulley mounted on Flexidyne housing, enabling quick, convenient operation of stripper. Pedestal has adjustable motor base to control tension on V-belts. You should have the full story of all the advantages of the new Dodge Flexidyne Card Drive. Ask your local Dodge Distributor, or write us, for new illustrated Bulletin A-653.

DODGE MANUFACTURING CORPORATION
1400 Union Street, Mishawaka, Indiana

NEW! FLEXIDYNE CARD DRIVE

A complete package, ready to install.

- **Flexidyne, keyed to motor shaft**
- **Pedestal, supporting motor**
- **V-flat drive**
- **Aluminum stripper pulley**
- **Aluminum guard**

DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

Twice as much ECONOMY!

with

Nacconol® NR Flake!

40% ALKYL ARYL SULFONATE

Cost-conscious textile operators save money two ways by using NACCONOL NR Flakes in scouring, wetting, emulsifying and other wet processing operations.

First, NACCONOL NR Flake is extremely effective at low concentrations. It is stable over a wide pH range, is unaffected by processing chemicals and doesn't form insoluble hard-water soaps that lower its efficiency.

Second, NACCONOL NR Flake is unfailingly uniform. Minimum 40% active organic content is assured, shipment after shipment, wherever your mill is located. Since you get consistent results, amounts used can be accurately controlled and waste minimized.

Our nearest office will be happy to supply samples of NACCONOL NR or any of these other outstanding textile detergents: **NACCONOL SL Liquid, NACCONOL DB Dense Beads, NACCONOL DBX Super Dense Beads**

Allied Chemical

NATIONAL ANILINE DIVISION

40 Rector Street, New York 6, N. Y.

Atlanta Boston Charlotte Chicago Greensboro Los Angeles
Philadelphia Portland, Ore. Providence San Francisco

In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 18

Distributors throughout the world. For information:
ALLIED CHEMICAL INTERNATIONAL • 40 Rector St., New York 6, N. Y.

CIRCLE 37 ON READER SERVICE CARD

NOW...FASTER,
LOWER COST SLASHING
MORE UNIFORM YARN SIZING

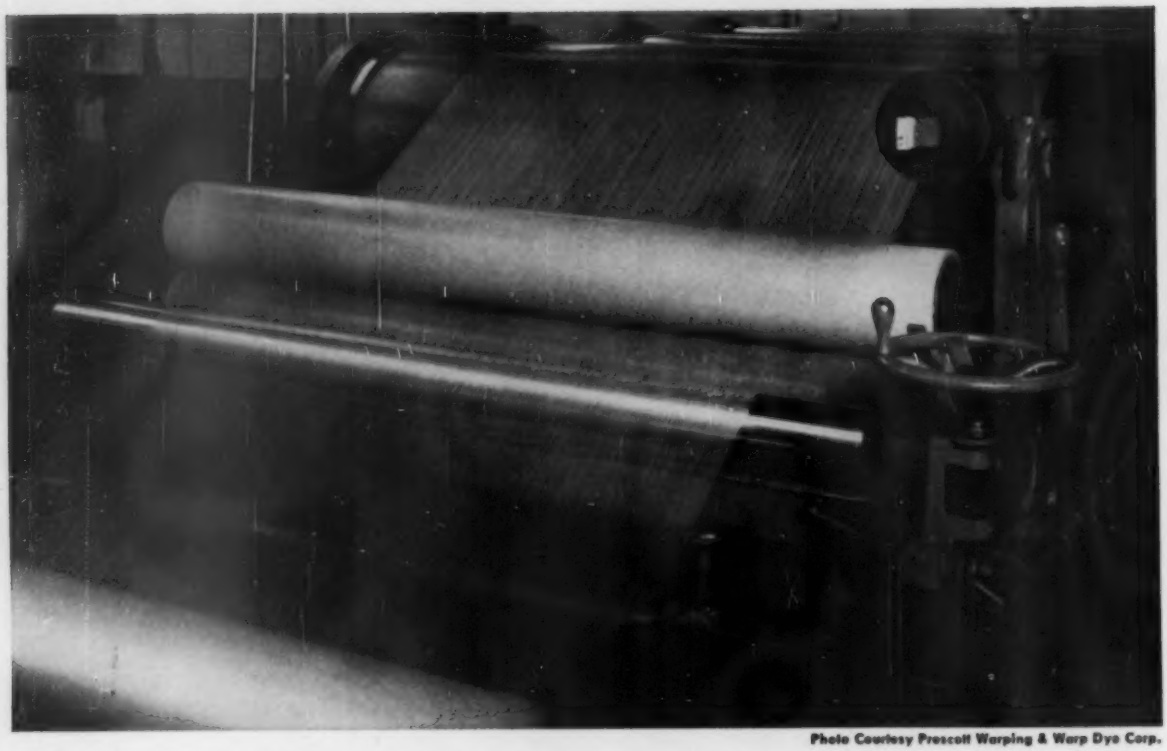


Photo Courtesy Prescott Warping & Warp Dye Corp.

NEW MANHATTAN SLASHER ROLLS ARE YOUR BEST BUY AT SQUEEZE AND DRESSING ROLL POSITIONS

ONLY MANHATTAN SLASHER ROLLS OFFER THIS COMBINATION OF FEATURES:

- Special synthetic rubber compounds control size pick-up to your requirements.
- Uniform, correct roll density assures *uniform, even* pick-up—the finish *you want.*
- Accurate metering of size permits substantial savings in starch costs.
- Distinctive red roll color permits faster, easier detection of yarn-end breaks.
- Keep perfect cushion *without* indentation—eliminate slasher downtime costs to maintain blankets.
- Roll end-caps prevent metal corrosion between cover and metal core.
- Provide highest resistance to starches, gums, softeners, oils or chemicals. Can be reground for longer life.

Let a Manhattan roll engineer show you how to get "More Use per Dollar" with Manhattan Slasher Rolls. Ask about the new Textractor and Texroc Rolls for maximum water removal and longer life on your mangles.

RM1058

ENGINEERED RUBBER PRODUCTS ...MORE USE PER DOLLAR

RM

ROLL COVERING PLANTS AT PASSAIC, N. J. • NEENAH, WISC. • N. CHARLESTON, S. C.

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

SpinSaVac®

Unit Collection Cabinet (Type HI)

Compact, starter on side, full access to motor alley

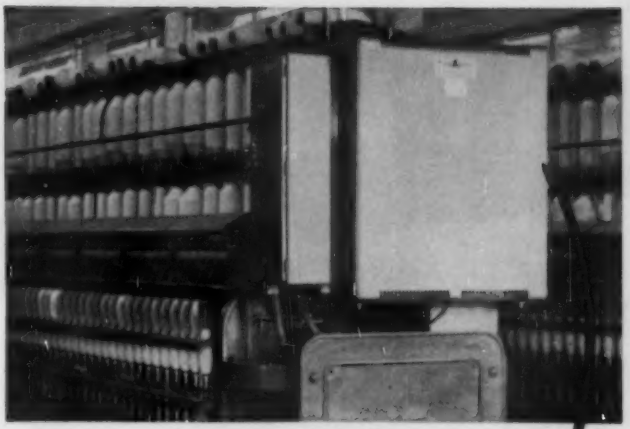
Flush surfaces

Large conical screen—fine mesh saran

Ample volume for collected lint

Large door for easy lint removal—air tight gasket locked without gluing

Air exhausted—up, down, or both—at low velocity, well diffused



Central Collection (alternate, not shown)

With provision for exhausting or returning room air

Clearing Conduit

Thick-walled, smooth, ethyl-cellulose

Strong, rigid, non-warping

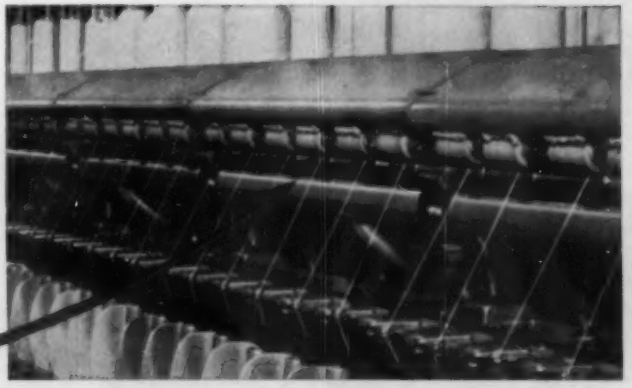
Spring mounted

Pear-shaped for accurate positioning and easy piecing up

Conduits on frame interchangeable without adjustment

Vacuum Impeller

Double-shrouded air foil type, for greater efficiency and higher vacuum



Write or 'phone for further information about SpinSaVac and SpinSaCreel

Parks-Cramer Company

FITCHBURG, MASS. CHARLOTTE, N. C. ATLANTA, GA.

406

FIL
UNIFIL
UNIFIL
UNIFIL
For Mills Who
Set The Pace In New
UNIFIL
UNIFIL
UNIFIL

Weave rooms in which today's newest and most imaginative fabrics take shape are those that UNIFIL® Loom Winders are making *more versatile*. UNIFIL Loom Winders permit the use of a wider variety of filling yarns: natural and synthetic; spun, filament, and textured. They enable weave rooms to switch filling yarn quickly and *economically* from one count to another . . . from one fabric to another — as style change demands. What's more, they improve *quality* — give fabrics with *textured* yarn filling a uniformity never before possible.

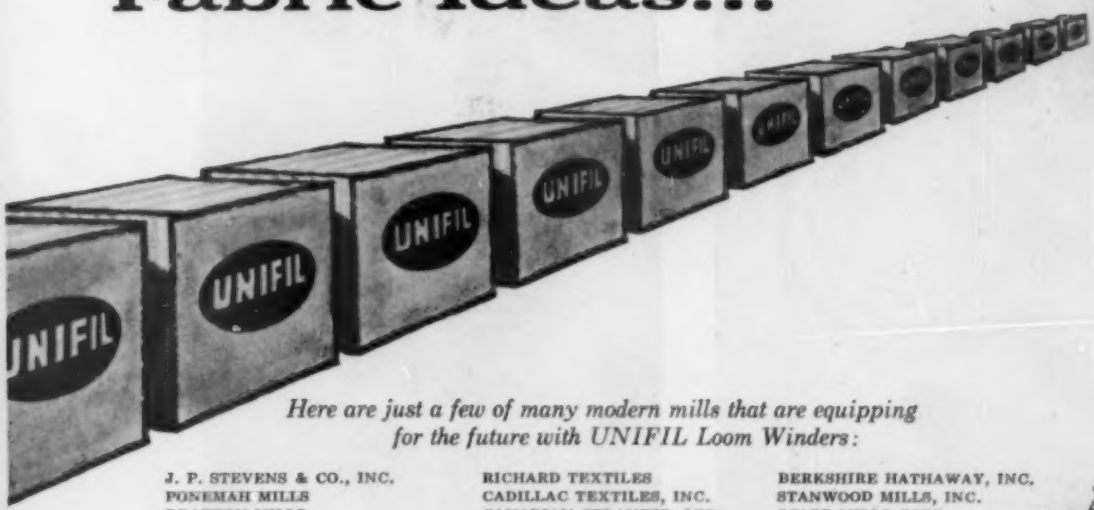
These are only a few of the reasons why today's leading textile manufacturers consistently reorder UNIFIL Loom Winders. They get all the other advantages of weaving-from-a-cone too, because quills are wound and shuttles loaded, empty quills stripped and returned for rewinding . . . all *automatically* right at the looms!

Find out what this *inherently better* method of filling yarn preparation can do for *your* weaving operations. A LEESONA "Profit Factor Analysis" will show you. Ask your LEESONA Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton.

Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, R. I.

Fabric Ideas...

LEESONA



Here are just a few of many modern mills that are equipping for the future with UNIFIL Loom Winders:

J. P. STEVENS & CO., INC.
FONEMAH MILLS
DRAYTON MILLS
JUDSON MILLS
UNITED MERCHANTS & MFRS. INC.
GLEN RAVEN SILK MILLS, INC.
BURLINGTON INDUSTRIES, INC.
EXPOSITION COTTON MILLS CO.
GREENWOOD MILLS
FRANK IX & SONS, INC.
MARION MFG. COMPANY
WILLIAM SKINNER & SONS
STRASBURG TEXTILE MILLS, INC.
AMEROTRON COMPANY
WOODSIDE MILLS
SPARTAN MILLS

RICHARD TEXTILES
CADILLAC TEXTILES, INC.
CANADIAN CELANESE, LTD.
CHRYSLER MILLS, INC.
CONSOLIDATED TEXTILES, LTD.
KALCO WEAVING CORP.
MARVEN LOOMS, INC.
PAXON FABRICS CORP.
PANSY WEAVING MILLS
PEPPERTON COTTON MILLS
RIVERSIDE MILLS

BERKSHIRE HATHAWAY, INC.
STANWOOD MILLS, INC.
STARR MILLS CORP.
WAUMBEC MILLS, INC.
GALLANT MFG. CO.
CARTHAGE FABRICS CORP.
ABDON TEXTILES INC.
DOVER MILLS GROUP
TALLASSEE MILLS
MACHIAS MILL INC.
WELDON MILLS, INC.

Versatility with Any Filling Supply

CIRCLE 41 ON READER SERVICE CARD

These two travellers

The Coats & Clark Representative is a service engineer and expert in traveller application. He will work with your plant engineers to help improve twisting room performance and cut your production time and costs.

The Coats & Clark Nylon Traveller has been tested and proved by 20 years of research, plus practical application in the leading textile companies. Made in over 200 types, it is guaranteed to cut production time and costs.

can help you cut costs

Coats & Clark probably know more about twisting traveller application than anyone else in the world.

The Nylon Traveller was originally developed in our mills to help solve our own problems. In the last 20 years, we have met and solved countless twisting room problems for top companies in the cotton, woolen, worsted, synthetic, tire and fiberglas fields. We'd like to share this experience with you.

Your Coats & Clark Representative is an expert in traveller application. He will be happy to work with you to help improve speed, quality, and performance in your particular type of mill.

Here are some of the ways the Coats & Clark nylon traveller can help you cut costs:

- Up to twice as high spindle speed
- Less staining of yarn
- Much less oil required
- Longer-lasting travellers
- Less down time
- More yardage on your present bobbins
- Less end breakage
- Less stock of travellers
- Cooler running ring rails and rings
- Larger diameter rings, last indefinitely
- Greater safety for workers
- Cleaner, quieter frames and rooms

If you would like your C&C Representative to show you—in your own mill—how the Coats & Clark nylon traveller can help you cut costs, write, wire or telephone.

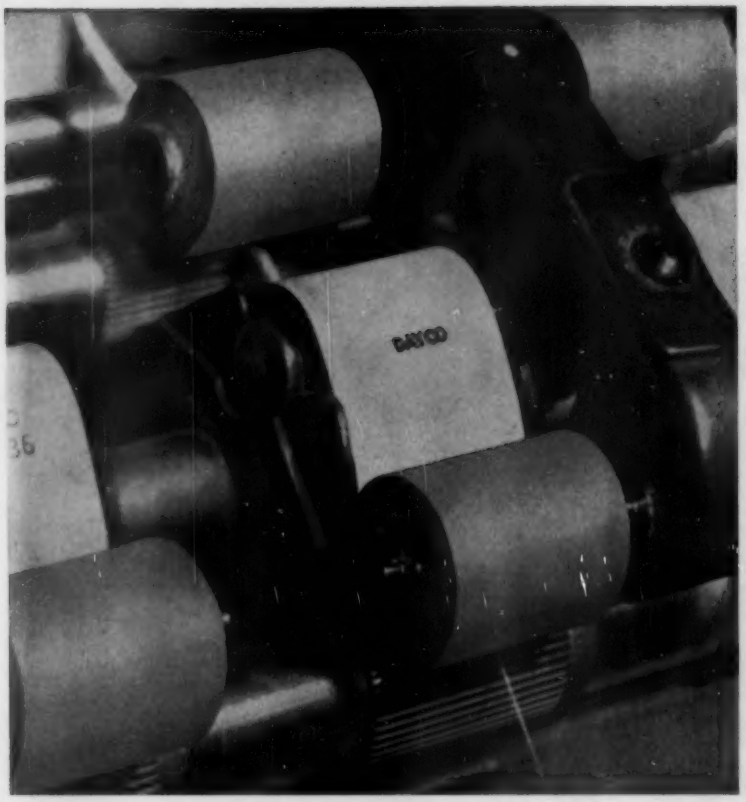
COATS & CLARK INC.

NYLON TRAVELLER DIVISION
1292-98 McCARTER HIGHWAY, NEWARK, N. J.

CIRCLE 43 ON READER SERVICE CARD

ACTUAL WORKING MODEL of long-apron system shows: (A) Patented embossed surface for precise coefficient of friction and abrasion-resistance formulated to last for years: (B) Unmatched flexibility at nose-bar for consistently smoother performance and top quality yarn: (C) Guaranteed yarn control due to a cleaner spinning outside surface.

EXCLUSIVE . . . patented by Dayco . . . your only source for this important friction-right improvement in aprons that made possible lower power and increased production. It's another example of Dayco's continuous research program to increase economies and production.



A COT FOR EVERY PURPOSE—as well as a virtually all-purpose cot! That's the great Dayco story to meet every need for surface texture, densities, dimensions, sizes, kinds. Whether man-made fibers or mixtures are your spinning problem, Dayco research in the laboratory and in the field guarantees consistently better results and greater savings.

NEW RECORD-BREAKING SPIN-AND-WEAR PERFORMANCE

with Dayco on any apron system

For super-quality yarn—consistently, month after month—nothing matches Dayco's patented Embossed Apron for long-apron systems. Here's super-smooth drafting action—unequalled flexibility and precision friction surfaces on both sides to meet any and all conditions.

No more tucking or jamming at the nose-bar . . . no more ozone breakdown . . . no more abrasive problems for months and months.

Improve your yarn quality . . . up your spinning performance with the pioneer and leader in the field —Dayco!

Ask your Dayco Representative to set up a time trial installation with Dayco Aprons and Cots . . . better results guaranteed. Phone or write the Dayton Rubber Co., Textile Division, 401 South Carolina National Bank Building, Greenville, South Carolina.

Dayton Rubber

D R

Dayco and Thorobred Textile Products for Better Spinning and Weaving

OVERSEAS PLANT: THE DAYTON RUBBER COMPANY, LTD., DUNDEE, SCOTLAND

Dayco All-Purpose Cots exceed 300,000 spindle-years WITHOUT REBUFFING

300,000 spindle years without the need of the usual periodic buffing! That's the 2½ year record from just one 120,000 spindle plant using Dayco's ALL-PURPOSE SG-60 cots.

Add to this amazing wear record the great volume of high-quality yarn coming off the production line and you can see the outstanding efficiency of the versatile SG-60.

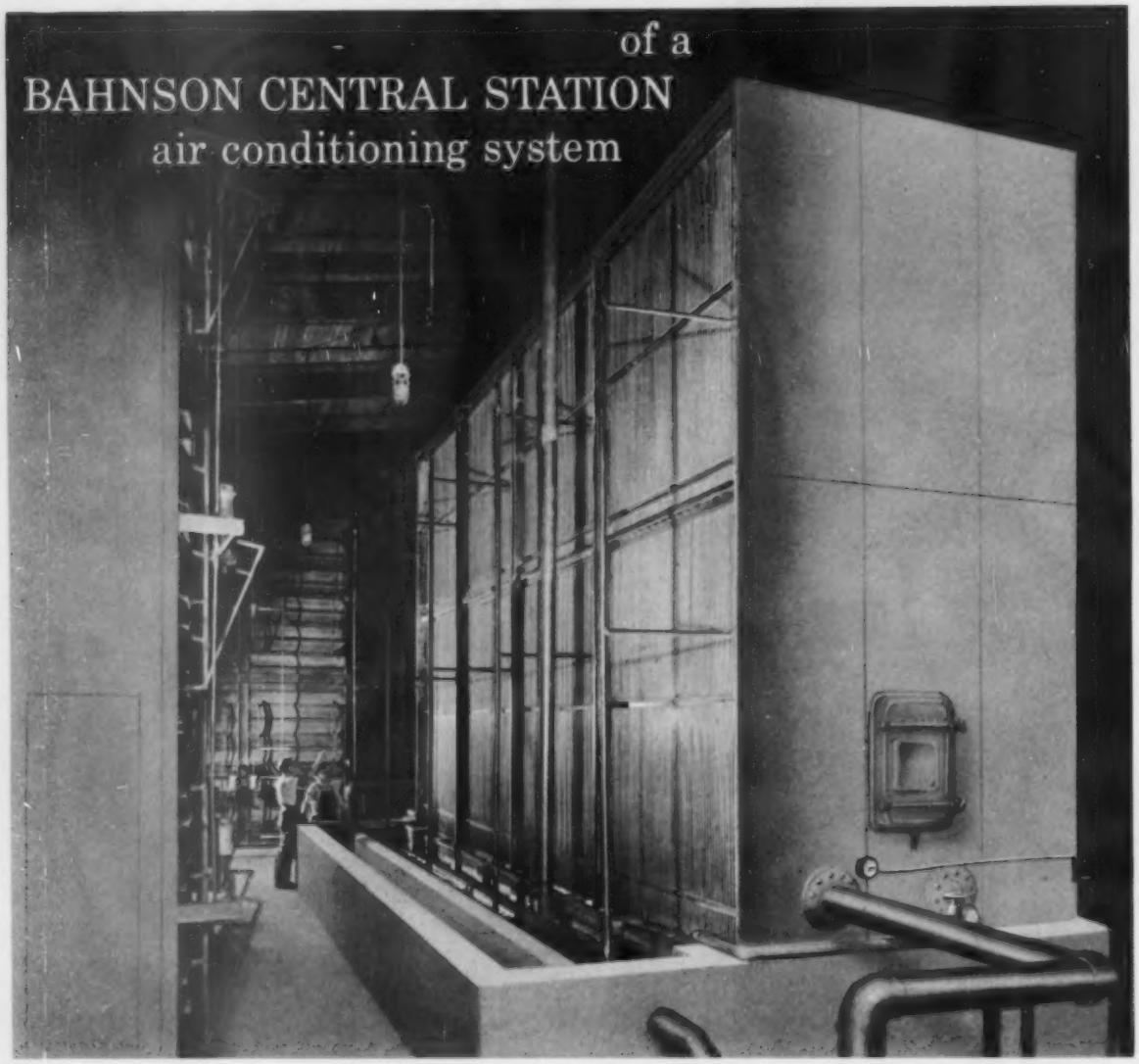
But with more than 70 different fibre combinations running now on production lines, a wide variety of top-quality cots must be used. Now, in plant after plant, Dayco has proved its laboratory tests on its full range of cots in actual production. Dayco offers a cot for every purpose. Each one is specifically designed for outstanding performance in a specific production situation with just the precise coefficient of friction. Dayco Cots deliver more yarn... better-quality yarn in mills everywhere, year in and year out.

This is just another example of Dayco service in the cot and apron field. Dayco's broad, continuous research and laboratory facilities have brought the most practical answers to the textile industry's spinning problems. Dayco's discoveries in precision compounding have resulted in closer precision tolerances than any other on the market.

Dayco research sought and came up with the answers on super-drafting at lower horse-power. Dayco's laboratory maintains quality controls on Dayco's own production line that have no match in its field.

CIRCLE 45 ON READER SERVICE CARD

Match your operating needs with Expert Custom Design



Bahnson provides experienced planning which cuts waste, gives you flexibility for the future, takes into account operating expense, and helps you insure the quality of your product.

With almost 50 years of specialized experience in textile air conditioning, Bahnson engineers can more efficiently analyze your air conditioning needs. Based on expert professional counsel in the beginning, correctly engineered component parts can be fitted correctly to specific operating and manufacturing requirements.

Let a Bahnson representative assist you in your air conditioning needs. There is no obligation.

Bahnson
AIR-O-MATION

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.

On the stage at Atlantic City Textile Machinery Show — Booth 11-18

Wages, Taxes, and Machinery

MILLS are now talking a new round of wage increases; and last month the TWUA held a meeting in Charlotte to map its 1960 wage strategy—meaning, of course, to get together on how much wage increase to campaign for and perhaps where to start.

By and large, nearly everybody favors higher wages; but more and more people are now coming around to the view that new pay increases don't seem to do much good. The cost of living jumps up as fast as wages, and the word "tax" has become only a three-letter word meaning "How can we gouge people for more of it?"

It is becoming evident to more people that the present extended "good times" now has a great deal of paper-shuffling about it. On paper, everybody seems to be doing fine; but in reality, the actual standard of living doesn't seem to be much better than it was several years ago. It may be worse—if there were any real way to find out.

Pinch on Business

What's happening to individuals is also happening to mills, machinery manufacturers, and other industries. The "cost of living"—in their cases the cost of making and selling goods—jumps every time there is an increase in wages, cost of raw materials and supplies, and taxes.

As pointed out on this page twice last year, in June and November, increasing costs are putting U. S. manufacturers at the mercy of foreign manufacturers and have already caused widespread changes in the U. S.-foreign competitive picture.

In those editorials, we talked specifically about textile machinery and the cost advantage that European manufacturers now have. We did not include tax as one of the growing burdens. But the following letter forcefully scores the effect of taxes and lines up U. S. politicians, big and little, as short-sighted dangers on a par with labor unions. One is hungry for tax money, the other for wage increases. They both live largely by gouging.

Taxes a Cause of Inflation

"I was very much interested in your article "The New Migration" (TEXTILE WORLD, June 1959, p. 45).

"Certainly, there is a flight of machine building to Europe. One client of ours makes a machine over there and sells it in this country for $12,000. If made here, it would have to sell for $20,000. A textile machinery manufacturer tells me that his machines can be made in Germany for 25% of what they cost to manufacture here. He has given up all manufacturing and is selling imported machines. Two other firms I know are manufacturing machines in Germany, and a third one is investigating possibilities of doing so.

"I wonder why, though, in the explanation for the high costs mentioned in the last sentence in the fourth paragraph under the heading 'U. S. or Foreign Machines?' no mention was made of taxes. They certainly constitute a factor in the high cost of machines.

"Labor and taxes are two of the basic causes for high prices of steel and machine tools, and taxes are one of the causes for the high cost of labor. I often wonder why, when inflationary factors are considered, taxes are seldom mentioned. When gasoline producers raised their prices 1¢ a gallon, the politicians cried 'Inflation' but when they added 3¢ a gallon in taxes in 12 months—as has been the case in New Jersey—no mention was made of inflationary effect.

"As a matter of fact, taxes are one of the most inflationary elements in our economy. This country really needs a study of our entire tax structure, not with the idea of developing new sources of taxes, as seems to be the purpose of most of such investigations, but rather to find out exactly the total tax burden we are carrying—a burden that is robbing business and the individual alike of incentive. Such a study should be a complete review of all taxes: national, state, county, and city—so that the American people may get a clear picture of just how much of its money the politicians are taking from them.

"In this connection, it is interesting that when Krushchev was over here he criticized our income tax as depriving people of incentive and said (despite it being a basic Marxian principle) they do not use it in Russia. A Communistic country has to teach us a lesson in economics! Russia moves toward Capitalism and away from Socialism, while our politicians push us ever closer to Socialism through what has already become confiscatory taxation.

(signed) S. M. Ferrer"

The Tax Threat

Early in January 40-odd dyers and finishers threatened to move their plants, employing over 3,000 people, from the city of Philadelphia if their tax class was not changed. The city classified them as mercantile, at a high tax rate, rather than manufacturing, at a lower rate.

The tax threat is real and is rapidly increasing. The most insidious thing about it is its hidden effect. The cost of everything—rent, automobiles, gasoline, shirts, food, steel—is pushed up by every increase in taxes as surely as by every increase in wages.

Somewhere it has to stop, as inflation and papershuffling prosperity has always stopped, as the stockmarket paper prosperity in the late 1920's stopped. The only alternative for industry is absolute domination by foreign competitors.

A. M. Thomas

TEXTILE MACHINE WORKS PRESENTS . . . the new Arrow 75-gauge latch needle* for ladies seamless hosiery machines

*after 75,000 hours of production testing

Arrow LATCH NEEDLES

What You Can Expect From 1959 Cotton

COTTON MOISTURE METERS are widely used in the Far West to regulate drying heat at gins.

USDA fiber and spinning tests, based on early-season pickings and compared with the 1958 crop, show that—

- **Quality was generally good**
- **Ginning practices are improving**
- **Best cotton was produced in the Far West**

By F. L. GERDES, Cotton Technologist, USDA, Retired

THE 1959 COTTON CROP was harvested rapidly under ideal weather conditions, except for the Mid-South early-season and the Carolina and Arizona mid-season crops.

By December 1, 91% of the crop had been ginned, ranging from a low of 63% in Arizona to a high of 95% in the Southeastern states. About 90% of the California and Mid-South crops also were ginned by this time. Good grades and full staples were produced in most areas, the result of generally favorable weather conditions during the harvesting season.

The accompanying charts show that:

1. In the Southeast, lower fiber strength resulted in lower yarn strength in 1959 as compared with 1958.
2. The outstanding feature of the 1959 Mid-South crop was its improved yarn-appearance index.
3. There appeared to be slight tendency toward shorter, finer, and weaker fibers in the Southwest this season.
4. All 1959 values for Western cotton compared favorably with 1958 values.

Weather Was Good

There were short wet periods in late August, early September, and early October in the Mid-South; but after that the rains were so light that they did not hold up the harvest more than a day or so at a time. For the most part, weather conditions were ideal in California; but in Arizona periodic rains retarded harvesting to some extent.

In November, rains in Texas influenced the grade of the crop under harvest. Large quantities of light spotted cotton from the High Plains area was in evidence late this season.

There was an unprecedented increase in machine picking in many areas; but grades were maintained at a satisfactory level and quality was not a limiting factor. Because of accelerated movement in most areas, spinners had to choose from a relatively narrow range of grades.

Mill buyers gave close attention to fiber quality, and their buying procedure was largely determined by fiber values and the availability of certain qualities. The Rio Grande Valley, the earliest producing area, enjoyed a good mill market with its improved fiber quality.

As the season advanced and buyers became more cognizant of fiber-quality values, the market for good cotton expanded; but after the influx of excellent-quality Far Western cotton, the market receded for awhile during the peak of the movement. As the supply of low grades became increasingly short, a corresponding increase in demand for medium grades became apparent.

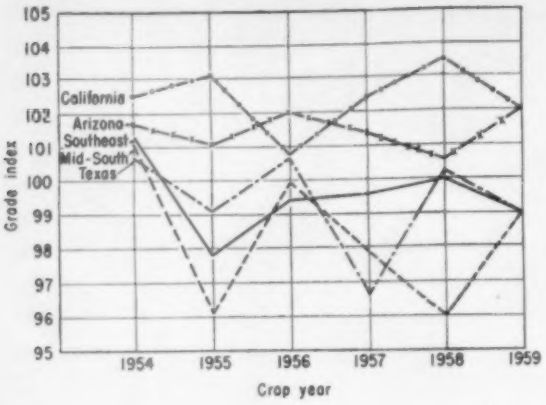
Spinning Qualities Varied

Spinning qualities varied this season from area to area, but there was a relatively narrow spread within each area. This condition existed from early- through late-season harvesting, and textile manufacturers were influenced to a marked degree by these prevailing conditions.

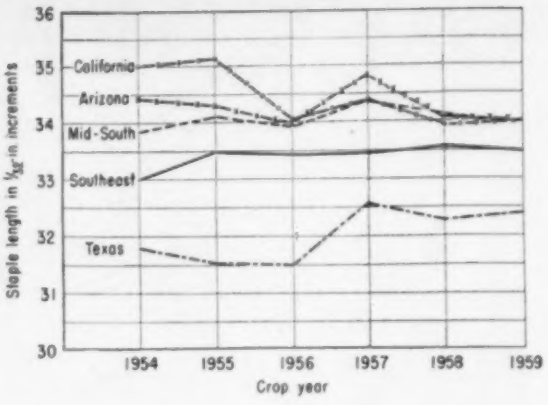
Many mills were attracted by 1- to 1 3/32-in. Texas cotton grown under adequate soil and moisture conditions and characterized by good mill-processing qualities and improved yarn appearance. Others preferred Mid-South cotton, which was in demand principally because of its smoothness and good Micronaire value, both of which contribute to smooth yarn and even-running qualities. Far Western cotton's distinctive property was its finer and stronger fiber that produces stronger and more-uniform yarn.

The states of Texas, Arizona, and California made a special effort to respond to programs stressing the desirability of controlling dryer heat and preserving fiber

COTTON GRADE INDEXES



COTTON STAPLE LENGTHS



quality at gins. In these areas, there was a widespread use of moisture testers to provide optimum moisture percentages.

As of October 1, only about 10% of the Texas crop had been ginned at 5% or lower lint-moisture content. Over 85% was ginned at a moisture content conducive to fiber-quality preservation.

Ginning Practices Improve

The South Texas and Far Western areas, usually the first to adopt new technological developments in ginning, proved the practicability of moisture control. These ginners have made moisture-meter testing a routine procedure for fiber preservation. They also practice minimum drying and overhead cleaning. Many secure additional grade improvement through the use of double lint cleaning. Other states reporting increased emphasis on moisture testing at gins include Arkansas, Mississippi, and Missouri.

In selecting cotton for specific end uses, spinners for a long time have known that the grade of cotton is definitely correlated with manufacturing waste and that staple length is related to yarn strength. They also know that Micronaire values not only influence yarn-appearance grades but are also factors in running qualities and have an influence on yarn strength within certain limitations.

Other values influencing spinning quality include uniformity and maturity, but their measurement is not as practical as those for Micronaire value and fiber tensile strength. But since they are important, uniformity and maturity are considered along with grade and staple length as factors affecting spinning values shown in the accompanying charts.

Long-Term Trends

An analysis of trends since 1954 for early-season cotton crops indicates that many properties are related to weather conditions. Harvesting and ginning methods in recent years also have been important factors that influence these properties.

Grade, for example, has had its ups and downs in almost every area of the cotton belt. Southeastern cotton in recent years had generally started off in the upper grade brackes, but torrential rains falling later in the season usually lowered the grade. In the Mid-South, early-season cotton in 1957 and 1958 was adversely affected by heavy rains; but in 1959 much of the cotton was harvested before the rains fell. Average grade last year in this area was Middling.

Over the six-year period, early-season Texas cotton ranged from Strict Low Middling plus to Middling; Arizona indexes indicate average grades of Middling to Middling plus. California grades held their own at around Middling plus despite steadily increasing quantities of mechanically harvested cotton. About 90% of the crop was mechanically picked this year in California.

Staple Lengths Vary

Staple lengths of early-season cotton have generally averaged between 1 1/32 and 1 1/32 ins. in the Southeast since 1954. Mid-South averages have been near 1 1/32 ins. Texas showed a progressive increase; Arizona and California had gradual decreases to about 1 1/32 ins. in 1959.

Prior to 1954, there was a sharp upward trend in fiber tensile strength of early-season cotton in the Southeast, Mid-South, and California. At the same time, strength in Texas and Arizona fluctuated upward. But since 1954, slight downward trends have been observed in the Southeast and Mid-South, with Texas remaining fairly stable. Fiber strength continued to increase in Arizona and California during the six-year period.

Texas, Arizona, California, and the Mid-South have shown an upward trend in Micronaire values since 1954. This value has been relatively stable in the Southeast from 1948 to 1959.

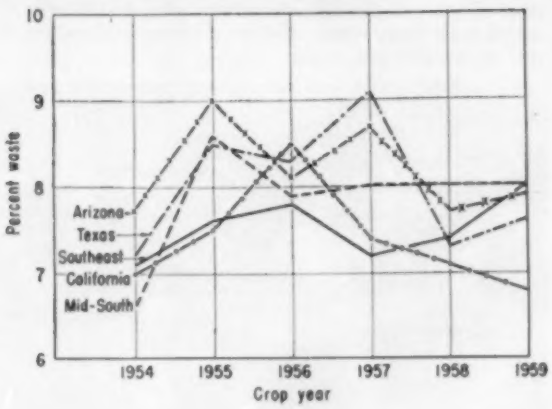
Over the six-year period, the trend in yarn break factors was upward in the Western states and downward in the Mid-South area. The Southeast has shown a tendency toward lower break factors.

As to yarn appearance, Texas shows the only definite trend since 1954—and it is downward. Mid-South and California cotton had improved yarn appearance in 1959.

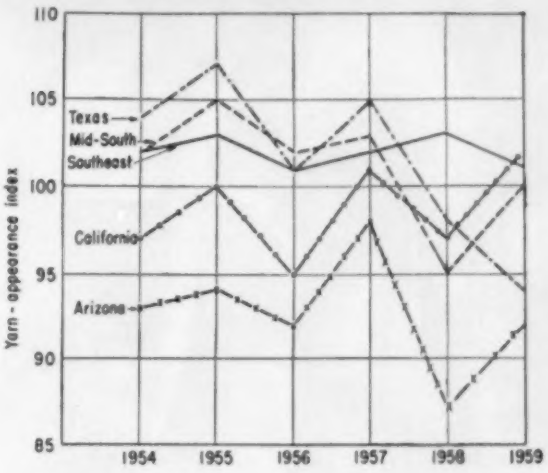
While neps in the card web is an element of spinning value that is hard to measure, certain trends are worthy of note. California cotton since 1954 has averaged fewer neps, and Mid-South cotton has remained relatively stable. Neppiness has been on the increase, however, in Arizona, Texas, and the Southeast.

The only significant trend in manufacturing waste during recent years has been a reduction in Texas and some of the Far Western states because of increased double lint cleaning at gins.

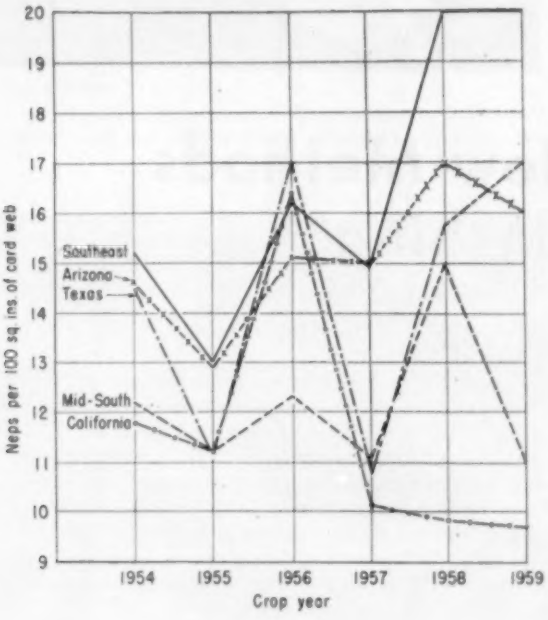
PICKER AND CARD WASTE



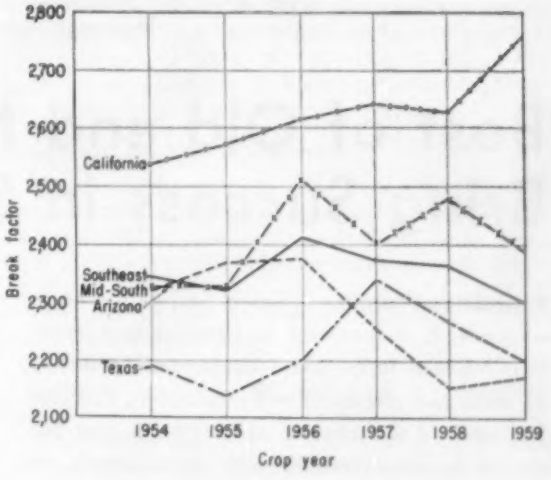
YARN-APPEARANCE INDEXES



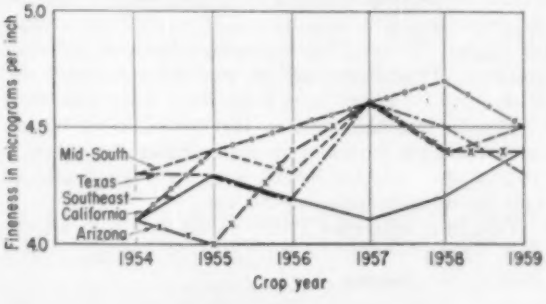
NEPS IN CARD WEB



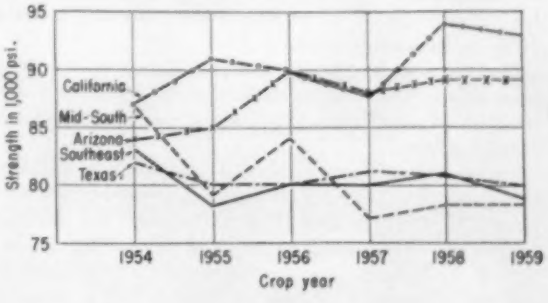
YARN BREAK FACTORS



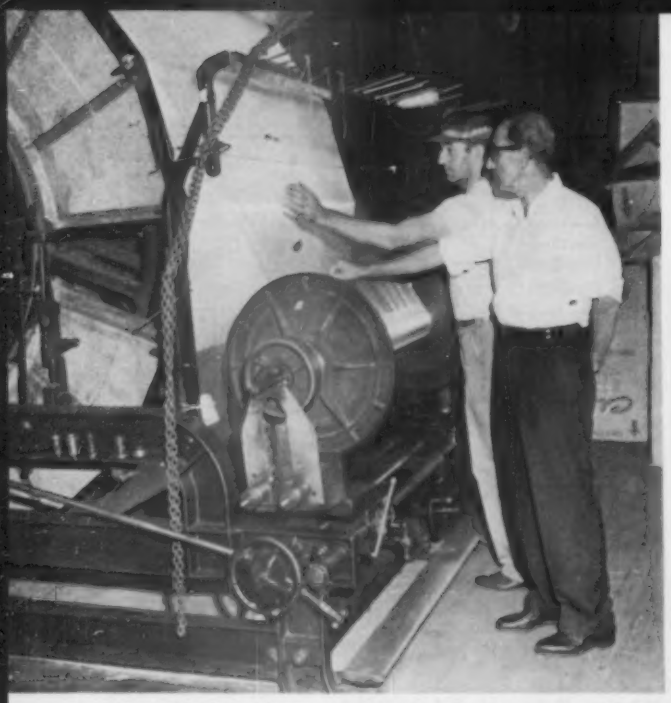
FIBER FINENESS BY MICRONAIRE



FIBER STRENGTH BY PRESSLEY TEST



—OUR COVER—
Photo by Coxe Studio, Greenville, S. C.



SILK-SYSTEM WARPERS are used for short-run and multicolor patterns, and they run up to 400 yds. per min. Charles Solomon, Cadillac partner, checks the tension on a 75-den. acetate warp.

COTTON-SYSTEM WARPER is used for long-run patterns. Average speed is 500 yds. per min.; an average warp is 934 ends of 150/40 2-tpi. bright viscose 16,000 yds. long. This machine is used on most one-color warps.

Best of Old and New Methods Bring Success in Slashing

• Cadillac Warping & Sizing Co., as the name suggests, is a specialist in warping and slashing. With a large plant concentrating wholly on these two phases of mill production, Cadillac has revived the best of old methods and has turned to new methods with good results on fine cotton and many man-made fibers.

TO MEET THE GROWING CHALLENGE of providing highly specialized warps, Cadillac Warping & Sizing Co., Inc., Hawthorne, N. J., recently started beaming metallic yarns on throwaway beams.

Cadillac does no weaving itself but is a commission and sales mill for beamed or slashed warps for other mills. Its stock in trade is quick delivery of well-slashed highly intricate warps.

Cadillac owners are Partners Charles Solomon and Ben Bernstein. They originally owned a weaving mill in New Jersey, but their own need for better warps led them to become specialists in the warping and sizing field.

Soon weaving became secondary to warp preparation and was abandoned. Now they have a mill a full city block long and half a block wide that's used exclusively to beam and slash warps.

So a business that started to fill a neighborhood need has grown until Cadillac now supplies regular customers in New England, the Middle Atlantic States, Midwest, and South.

Warps cover a wide range of cotton and man-made fibers. Cotton fibers vary from 2/30s to 2/60s. The main continuous-filament man-made fibers are 75- to 300-den. acetate and rayon. Much Dacron and nylon are also warped and slashed. Both yarn-dyed and natural-color yarns are run. Twist is as low as 2 tpi. and extends upward through 15, 20, and 30 to include all throwster's turns.

Loom beams are 14 to 85 ins. wide and contain from as few as 50 total ends up to 18,000.

Throwaway Beam Is Newly Developed

Cadillac's important new development of beaming metallic yarns on throwaway beams includes all yarn numbers and colors of metallic yarns. This method lets mills overcome the common difficulty of creeling only a few ends at cotton-system slashers because it provides loom beams of 20 to 500 ends for the second beam in two-beam weaving. These beams can be used either at slashers or looms, and the empty beam is discarded when it is empty.

Metallic-yarn-beam widths vary from 20 to 60 ins., and warps are furnished in any specified length up to 10,000 yds. Average beams have 300 warp ends, and light beams often have only 50 ends.

Tension is controlled closely on all ends, and beaming paper at regularly spaced yardage assures straight ends in slashing and weaving.

Narrow Fabrics Go to Wide Beams

A second development at Cadillac that's growing fast is beaming warps 27 to 60 ins. wide for narrow-fabrics weaving. Mills that formerly used narrow spools with only 24 warp ends are changing to these wider beams. Common fibers used for these warps are cotton, acetate, rayon, and Fortisan.

End uses of the narrow fabrics woven from the wide beams are hatbands, seam bindings, underwear bindings, labels, and many types of tapes.

Cadillac's biggest production is on broad-loom warps of cotton, rayon, Dacron, etc. in widths of 44 to 85 ins. The most common yarns are rayon and acetate of 150, 100, and 75 den. in the order listed.

Two Warping Systems Are Used

There are six silk-system warpers and one cotton-system warper. Silk warping is usually on three to six colors of warp yarn, and cotton warping is limited to one color for best efficiency.

The silk warpers run up to 400 yds. per min., and the cotton warper runs 500 yds. per min. A standard warp construction for the cotton warper is 934 ends of bright viscose 150/40 yarn with 2 tpi. Each section beam contains up to 16,000 yds.

Creels on both silk and cotton warpers have electric stop motions.

Cadillac has two silk-system slashers, one cotton-system slasher, and one slasher that's convertible to either the silk or cotton system.

All slashers have seven 26-in.-dia. cylinders, and the first three cylinders nearest the size boxes are covered with Teflon.

On a set of 11,000 ends of 150/40 acetate with 2 tpi., the cotton-system slashers run 12 section beams of 28-in. diameter. Four of the beams have 916 warp ends, and the others have 916 ends each. On this set, the slasher runs 18 yds. per min. An average set is 12,800 yds. of warp yarn.

Steam pressure is 12 to 14 psi.-ga. Temperature by cylinders beginning at the size box is 200°, 200°, 210°, 210°, 230°, 230°, and 230° F.

Size Formula Is Standardized

As a loom beam is being doffed, steam is cut off to cool the cylinders to prevent overheating the yarn while the slasher is stopped. Two to three warps are doffed per shift. An end-to-end lease is taken at every doffed warp.

Size in the size box is held as closely as possible to 120° F., and it's never permitted to go higher than 130° F. Moisture content of the slashed warp is 1%. Both the immersion and squeeze rolls are rubber-covered.

The size formula for this acetate warp is 36 lbs. of Vynolex, 2 lbs. of penetrant oil, and 60 gals. of water.

The Vynolex is mixed in the 30 gals. of room-temperature water and is agitated 10 mins. at this temperature. Then it's heated to 180 to 185° F. within 10 mins. The penetrant oil is added to complete the formula. Many other warps are sized with this same formula.

Silk-System Slashing Is Efficient

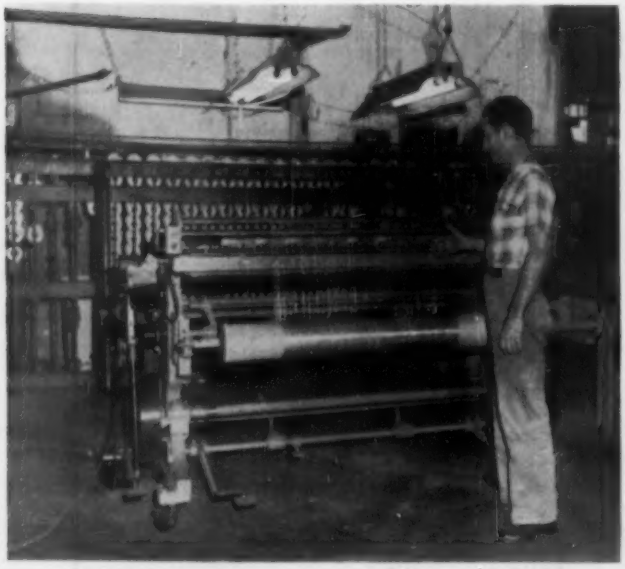
Because Cadillac runs so many styles of warps and such intricate patterns, its silk-system slashers have become even more efficient than its cotton-system slashers. Speed is 30 yds. per min., and each silk slasher produces five to six slashed warps per 8-hr. shift.

These slashers have stainless-steel immersion rolls and blanket-covered squeeze rolls.

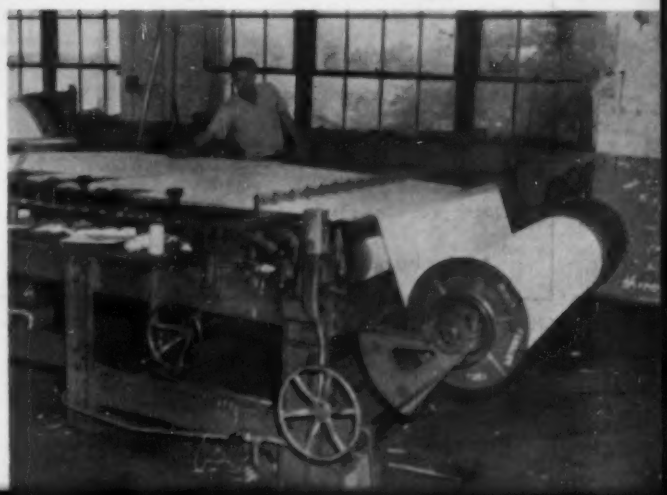
A narrow-fabrics pattern frequently slashed is 100/60 dull viscose with 3 tpi. The loom beam is 58 ins. wide and contains 5,500 yds. of warp with 2,200 ends.

A broad-loom pattern is a striped warp of 150-den. dull acetate and black acetate. A 68-in. loom beam contains 1,280 yds. of warp.

The 2/30s to 2/60s cotton warps are produced in large volume and are for swimwear fabrics. The woven fabric is used by three of the largest producers of swimwear: Jantzen, Rose Marie, and Catalina.



BEAMING METALLIC YARN on throwaway beams is Cadillac's newest development. Over-all ends in a beam vary from 20 to 500, and width is 20 to 60 ins. in any specified length up to 10,000 yds.



COTTON-SYSTEM SLASHERS are used for long-run patterns of conventional weaves. A second similar slasher is equipped to handle either silk-type or cotton-type warps. The same standard size formula is used on all slashers.

Details on Lycra Spandex Fiber

- Commercial production of Lycra is scheduled to begin this fall at Du Pont's Waynesboro, Va., plant.
- The fiber is expected to be used in many special-purpose and sportswear garments requiring elastic yarn. Here's what Lycra is like—

LYCRA, THE NEW MAN-MADE SPANDEX (SYNTHETIC ELASTOMER) FIBER formerly known as Fiber K, is expected to be in full commercial production by the third quarter of 1960. Limited quantities are available now.

Lycra resembles rubber in its elastic qualities, but it is said to offer many special advantages that are not available in rubber yarn.

Stronger and more durable than conventional elastic yarn, the new fiber weighs a third less, gives longer wear, and has from two to three times as much restraining power, according to the manufacturer.

Advantages Are Cited

Lycra is said to offer special advantages to manufacturers of foundation garments, swimwear, surgical hose, and other elastic products. Machine-washable garments with good holding power and figure control are expected to be made softer, lighter in weight, and sheerer than were formerly available.

Other advantages claimed for the fiber are dyeability and resistance to perspiration and cosmetic oils and lotions. A monofilament yarn, Lycra is inherently white and can

Chemical-Exposure Tests Made on Lycra Without Finish

Chemical	Concentration	Temperature	Time	Effect on physical properties	Effect on color
Soaps and detergents (at garment-use conditions)				None	None
Perspiration (acid and alkaline)	Standard AATCC make-up	120° F.	24 hrs.	None	None
Perchloroethylene	100%	Room	45 mins.	None	None
Perchloroethylene	100%	80° F.	35 drycleaning cycles	Moderate	Slightly yellow
Stoddard's solvent	100%	Room	45 mins.	None	None
Carbon tetrachloride	100%	Room	45 mins.	None	None
Hydrochloric acid	10%	120° F.	24 hrs.	None	Slightly yellow
Sulfuric acid	10%	120° F.	24 hrs.	Slight	Slightly yellow
Hydrogen peroxide	3%	120° F.	24 hrs.	Slight	Slightly yellow
Sodium hydroxide	10%	120° F.	24 hrs.	Slight	Slightly yellow
Benzoic acid	2%	212° F.	1 hr.	Slight	None
Ortho-phenylphenol	2%	212° F.	1 hr.	Slight	None
Sodium hypochlorite	1%	120° F.	24 hrs.	Degraded	Yellow
*Calcium hypochlorite	1 ppm.	Room	1 wk.	None	None
Calcium hypochlorite	3 ppm.	Room	1 wk.	None	Moderately yellow
Calcium hypochlorite	9 ppm.	Room	1 wk.	Slight	Yellow
Sea water	100%	Room	1 wk.	None	None
Sodium perborate bleach	Manufacturer's directions	140° F.	20 cycles	None	Trace whiter
Olive oil	100%	100° F.	2 wks.	None	Slightly yellow
Mineral oil	100%	100° F.	2 wks.	None	None
Lanolin	100%	100° F.	2 wks.	None	Slightly yellow
Sun-tan lotions	100%	100° F.	2 wks.	None to slight	Very slightly yellow
Rubber processing oils	100%	100° F.	2 wks.	None	None to slightly yellow

* Swimming pool concentration, available chlorine 0.5 ppm. maximum.

CHEMICAL-TEST RESULTS are aimed at showing Lycra's excellent resistance to most common chemicals used in washing and bleaching operations and in cosmetic oils and lotions.

be used undyed or it can be dyed in the piece.

Still other properties that suggest new functional performance in garments and offer new opportunities to the fabric designer are good strength and uniformity, high abrasion resistance, high modulus and flex life, and resistance to ultraviolet light and a wide variety of chemicals.

Lycra yarns are presently supplied on both a returnable plastic-tube core and on a nonreturnable paper-tube core. The paper core is used to wind 280- and 420-den. packages at present. Other deniers (70, 140, and 560) will soon be available on the paper core.

Sizing Is in Deniers

Lycra is a true textile fiber, and as such its yarn sizes are described in denier units. Since rubber thread is sized in gauge, it will often be necessary for the mill to compare the spandex fiber with rubber gauge. These formulas can be used:

For cut rubber

$$\text{Denier} = 5.8 \times \left(\frac{1{,}000}{\text{gauge}}\right)^2$$

For extruded rubber

$$\text{Denier} = 4.56 \times \left(\frac{1{,}000}{\text{gauge}}\right)^2$$

Physical and chemical properties are given in the accompanying tables.

Physical Properties of Lycra Without Finish

Deniers available	70, 140, 280, 420, 560
Breaking tenacity (grams per den.)	0.6 to 0.8
Breaking elongation (%)	520 to 610
Power at 50% elongation (grams per den.)	0.03 to 0.04
Power at 200% elongation (grams per den.)	0.10 to 0.12
Stress decay (1 min. at 50% elongation)	6 to 8%
Tensile recovery (from 50% elongation)	93.5 to 96%
Moisture regain at 70° F., 65% r.h.	0.3%
Specific gravity	1.0 (approx.)
Abrasion resistance	Good
Flex life	Good
Color	White
Luster	Dull
Fume-oven exposure (16 hrs.)	
Color change	Slightly yellow
Physical-property change	None
Fade-Ometer exposure (15 hrs.)	
Color change	Trace of yellow
Physical-property change	None to slight
Resistance to heat	Yellows and degrades over 300° F.
Melting point	482° F.
Sticking temperature	347° F.

PHYSICAL PROPERTIES differ somewhat from conventional man-made fibers because Lycra performs differently from other fibers and no specific standards have yet been set.

Standardized Needles and Molds Cut Knitting-Machine Elements

• It's no longer necessary to carry a large inventory of warp-knitting-machine needles and molds. One standard type of needle and mold can serve several types of machines.

ALTHOUGH THERE'S A CLOSE ASSOCIATION between the dimensions of bearded knitting needles and the needle bar and other loop-forming motions in warp-knitting machines, many different sizes of needles can be used in a given machine with good results.

The most critical dimension is the beard length, which must be kept fairly constant. Variations in stem pressing, stem height, and over-all length may be relatively great.

However, changes in these dimensions may require changes in the trickways in the mold for proper spacing and fitting of the new needle.

Needles being used in a particular machine must possess complete dimensional uniformity. But only one specific needle or one specific gauge of needle in a certain type of machine is required.

It's often possible to adopt one standard type of needle for several different knitting machines. Advantages are that the principal knitting elements are kept in first-class condition and operating costs are lower.

Molds Are Standardized Too

Recent improvements in needle maintenance in knitting mills have come from standardizing molds so that only one type of cast unit is used for all machines of the same type in the mill. This method cuts inventory, reduces record keeping, and eliminates shortages often caused by a damaged mold.

With the new method, only one or two molds serve the entire mill. A further advantage is that uniform dimensions and correct alignment are maintained.

Two master samples determine when a mold needs reconditioning to prevent variations in dimension and alignment: (1) a unit to produce a snug fit and easy replacement in the knitting machine and (2) a unit to assure accurate alignment.

The mold can be altered to hold needles of different pressing and height from the original needle. Tolerance isn't too close here, and often the length is more critical than pressing and height dimensions.

Length must be such to obtain a firm seat in the lead, but beyond a certain limit excessive needle-stem length obstructs the flow of lead and results in a poor casting. And except for this limitation, trickways can be replaced by interchangeable button inserts that allow two types of needles to be cast in one mold.

Casting temperature of the alloy must be correct, and preheating and smoking of the mold are important. Metal must be poured to produce a well-filled casting, and center tricks must be filled out.

ALL DATA enter the American Thread system via the 533 read-punch unit at right. The 650 console at center processes it, and the 727 tape drive units at left record it.

American Thread Launches

One of the largest and most up-to-date electronic computer systems in the textile industry was recently started up by American Thread Co. in New York City. When the system is fully in operation, the mill management expects it to keep track of many jobs, including—

- **Reorder levels**
- **Finishing-mill production**
- **Gray-yarn commitments**
- **Stock replacement**
- **Departmental backlogs**
- **In-process inventories**

AMERICAN THREAD CO. recently started up a new electronic data-processing center at its headquarters, 260 W. Broadway, New York, N. Y., to control and coordinate the operations of its seven mills engaged in the production of nearly 40,000 different items of thread and yarn.

Since start-up time last fall, the equipment has been adapted to billing, accounts-receivable, payroll, and sales-analysis operations.

During more recent months the system—based around an IBM RAMAC 650 computer—has been put to work controlling all finished-goods inventories in 20 branch offices and warehouses. The arrangement serves notice instantaneously whenever stock levels drop to the reorder or expedite point.

The 650 will soon be punching out reorder advices one day after reorder levels are reached. The same process takes up to a week under present manual methods.

Inventories Can Be Reduced

Swifter stock replacement made possible by this operation will improve customer service in the highly competitive thread and yarn field in a very tangible way. By making certain that needed stocks are always on hand, sales won't be lost simply for lack of goods. And at the same time, faster stock replacement will eventually allow some reduction in inventory commitment.

In the next few months, the company expects to be chalking up impressive gains in the area of finishing-mill production control. Reports issued regularly will furnish planning personnel with complete wrap-ups of departmental backlogs, machine loadings, and in-process inventories for the firm's 40,000 products.

By keeping track of gray-yarn commitments, the system also will quicken the company's response to up-and-coming spinning-mill needs.

Still another application for the equipment will be budget accounting. Supervisors will be furnished reports that show exactly what they have spent so that they can compare this figure with what they previously budgeted themselves to spend during any given period.

The cost of all this improved control will run to $250,000 a year in equipment rentals, but this cost will be largely offset by reductions in

407 PRINTER REPORT is checked by a member of the computer-room staff. Two 355 disk-storage units are at the rear. The tape data selector stands at right center.

COMPUTER INSTALLATION ultimately will replace over half of these busy accounting machines, sorters, collators, and associated equipment that are now in use.

Big Data-Processing Center

operating costs.

American Thread employs 5,500 people in its seven mills. The largest installation, an 1,800-employee unit at Willimantic, Conn., is a combined spinning and finishing mill. Another finishing mill is located at Sevier, N. C. A spool mill is situated at Milo, Me. Other spinning mills are located at Clover, S. C., Dalton, Ga., Tallapoosa, Ga., and Troutman, N. C. Total production runs in the neighborhood of 30-million lbs. of yarn and thread per year.

Like most textile companies, it has been only in the last four years that American Thread became interested in the advantages of electronic data processing. This interest partly stems from an understandable desire to bolster corporate profits. But interest also can be traced in part to new-found attractions within the electronic data-processing field itself.

Punch-Card System Was Too Slow

For many years, the company's tremendous variety of limited-volume products made data processing impractical. That was when only punch-card equipment was available. Using cards to keep track of all those products would have required a great deal of space and much extra handling. When the more-condensed and more-flexible electronic record-keeping techniques came along, high-speed data processing suddenly made sense.

At American Thread, information is stored on disks or magnetic tapes in little "deposits," actually magnetic spots. Space is no longer a problem. For example, with the 727 tape unit, a single 2,400-ft. magnetic tape can store up to 5,760,000 digits of information. It would take over 70,000 IBM cards, enough to fill a good-sized closet, to hold this same amount of

Key Units at the Data-Processing Center

1. **650 computer**—coordinates operations and makes the system calculate, compare numbers, store data, make logical choices, read, and write.

2. **355 disk-storage units**—store up to nearly 6-million digits of information on memory disks that look like juke-box records; 355 units also can pick out or file needed facts immediately without wading through masses of unwanted data.

3. **727 tape drives**—store data on magnetic tapes by fitting 200 digits to the inch at a rate of 15,000 digits per second.

4. **774 tape data selector**—reads magnetic tapes and feeds data to printer.

5. **533 read-punch unit**—feeds data from cards into the 650 computer at 200 cards per minute; can also receive processed information back from computer at 100 cards per minute and feed same to printer.

6. **407 printer**—types out reports and records at 150 lines per minute.

information. Also, processing speeds are far greater. A 727 tape-drive unit can record or read data at 15,000 digits per second. Punch-card equipment cannot approach that speed.

Instructions Are Preset

The heart of the new system is in the company's New York data-processing center, completed in September 1959. Here, in a 1,650-sq.-ft. cinder-block room-within-a-room, 20 deceptively simple-looking units are linked together electronically and swiftly carry out their appointed tasks. The machines follow preset instructions deposited inside a computer, the pivotal member of the team.

Data enter the system via punch cards and come out in either punch-card or tape form. These cards and tapes are then used to prepare the needed printed matter. Magnetic tapes come into play once the data are inside the system and are used wherever processing speed must be great and storage space small.

As with all data-processing units of this type, heat generated by the machines is carried off by an air-conditioning system that holds room temperature and humidity within the close tolerances required.

A SINGLE REEL OF MAGNETIC TAPE will hold all the data contained on the 70,000 IBM cards stacked against the wall. Tape contains seven columns of digits and is 2,400 ft. long.

Full-Time Engineer Needed

A full-time customer engineer supplied by IBM keeps track of all factors affecting machine performance; a company staff of three is responsible for processing work through the equipment. Each company member has had at least two weeks of special schooling on the 650 data-processing equipment.

An additional staff of 32 persons operates the "peripheral" equipment: the card-punch machines, verifiers, collators, sorters, summary punches, and other units neded to ready data for the computer room.

Prior to the installation of the new system, 11 card-punch and verifier machines and 20 accounting machines and associated equipment were needed. It is estimated that the final ratio will be about 21 to 8.

The machine-room staff itself has remained fairly constant at about 35, with a few additional people needed during the change-over period. In addition to this operating group, a staff of five develops and tests programs and performs other kinds of systems work. Heading up the entire operation is a data-processing manager, A. J. Eastwick. He reports directly to Controller H. E. Williams, who incidentally is the present chairman of the 40-member Textile Data Processing Association.

Seven small regional tab installations, located at mills and branches and used to relay data to New York, are supervised locally.

Machines Spot Errors

American Thread management says that the one great object lesson taught by the system during its first few months of operation is: "Spare no effort to sell employees on the importance of accuracy. The system is absolutely unswervable in its procedures. It follows directions, *period!* Give it the wrong information and it stops and sits idle until whatever is wrong is corrected."

Typical of the problems encountered was one case involving a packing slip from one of the firm's branches. The trouble here was traced to the price of one of the items. The packing list had the old price. The system was set up for the new one. Everything stopped until the error was spotted.

Later on this year, when the system takes on production control, the fortunes of every finishing-mill process order will be charted on a daily basis. Each day's production will be relayed over telephone wires via data transceivers to New York. By this method, every card punched at the mill will be duplicated simultaneously in New York. At New York, the data will be fed into the 650 system to update all production records maintained for that mill. Reports will be drawn off as required to give local planning personnel the facts on backlogs, machine loads, and inventory positions needed for effective production scheduling.

The company's mill-management group sees in this operation an opportunity for further increases in efficiency and reductions in operating costs. What it is eyeing are the built-in safety factors common to any less-than-complete production-scheduling operation. Whether in the form of excessive inventories or stretched-out processing time, the management feels that these factors invariably reflect negatively on over-all operation. They also tend to hide bottlenecks.

Operations Will Be Trimmed

The company reasons that by completely scheduling finishing, the need for some of the safety allowances will be largely removed. Operations will be trimmed down all around, and processing areas that do require attention will be clearly revealed. At the same time, a more orderly sequence of work will be achieved in finishing, and this in turn will reduce the number of changes made in the spinning mills. To achieve the same efficiency without the 650 system would involve a burdensome clerical job requiring the full-time services of almost 100 persons.

In all of these plans, the company has scrupulously avoided tampering with management prerogatives. All data are offered with no strings attached. The information contains no prepackaged decisions. It is just information—current, accurate, helpful, and complete. Supervision itself will have to make this new-found assistance pay off.

Man-Made Fibers Move Into New Markets

• Felt-weaving mills have not used man-made fibers to as large an extent as other broad-woven mills, but now the man-mades are moving into felted fabrics for special end uses. Many of these fabrics are being used with good results in producing other textile products.

MILLS THAT WEAVE FELT FABRICS on looms up to 600 ins. wide are switching to man-made fibers on some fabrics to improve the felts. For example, in fabrics for both wet and dry filtration where conditions of chemical exposure and high temperature occur in many combinations, over 50% of the fibers are man-made fibers.

Other woven-felt fabrics in which man-made fibers have become important are tannery sleeves, cider cloths, fur-dressing pads, polishing felts, beltings, and tubular felts.

Woven felts made exclusively for the textile industry that contain appreciable amounts of man-made fibers are printing blankets, lapping cloth, decatizer leaders, clearer and other roll cloths, race-plate covers for looms, reel covers, underdisks for spools, card-clothing foundation cloth, and conveyor belts.

Acrylic Blend Improves Fabrics

Among these fabrics, the greatest improvements have occurred in decatizer leaders, lapping cloth, and covers for dyebeck reels. Acrylic fibers blended with cotton in decatizer leaders have improved the leaders' ability to withstand the acid condition.

By making dyebeck-reel covers entirely from a non-dyeable man-made fiber, the trouble from bleeding of a color from one run to another has been eliminated.

But in other fabrics for the textile industry, man-made fibers are being used little or scarcely at all because of the wide variety of conditions encountered. For instance, compressive-shrinkage blankets and Palmer dryer blankets require the utmost possible stability and smoothness of surface. These features are obtained by extreme fulling, and man-made fibers detract from fulling.

In slasher cloth, blending nylon with wool gives a more-durable fabric but it soon becomes hard in use. Therefore the fabric is less satisfactory than cloth made of all wool or cotton warp and wool filling.

Man-Made Fibers Are Often Best

For felt fabrics in general, man-made fibers are often superior to natural fibers in strength, abrasion resistance, flexural endurance, and resistance to heat. These desirable properties are particularly present in nylon and polyester fibers.

Dryer felt is one fabric that is improved greatly with these two fibers: (1) a relatively small percentage of either fiber is used to reinforce cotton, (2) a considerable proportion of either is used in place of cotton as in asbestos-cotton felts where spun yarn of nylon or polyester is substituted for the cotton yarn on the working face of the felt, or (3) the felts can be made wholly of nylon or polyester fiber.

Another successful development of using man-made fibers in dryer felts is in using continuous-filament yarns in place of fibers. These yarns are twisted with cotton yarns to form open helical wrappings around the core of each cotton yarn. And if the pitch of the continuous-filament yarn is not greater than half the length of the cotton fibers in the core yarn, the cotton yarn remains unimpaired in service even though the cotton fibers sustain considerable degradation.

More Than One Fiber Is Used

The man-made fibers used in these fabrics are not more than 10% of the over-all fabric by weight. In some fabric installations, addition of both nylon and polyester continuous-filament yarns gives best results.

Yarns spun from man-made fibers are often used on the working face of felts just as asbestos is used. This practice is applied to regular-weave constructions. If warp yarns outweigh filling yarns on the working face, then all warp yarns that weave on the surface are man-made fibers.

But if the filling yarns outnumber the warp yarns on the face, the surface filling yarns are man-made fibers.

For several years, mills have been weaving dryer felts completely from man-made fibers. These felts are often given a raised surface that closely resembles a woolen dryer felt, and they are used on machines that make the very finest paper. However, many wholly man-made-fiber felts have been used successfully on machines producing coarser papers, including newsprint and kraft.

To insure adequate dimensional stability under all machine conditions, mills have to give these fabrics an additional finishing treatment.

Edges Are Made of Man-Made Fibers

On many paper machines, the edges of the dryer felts become grossly contaminated with oil from the machine roller bearings and frame. In many instances, oil contamination becomes so acute that the felt must be removed before it has fulfilled its service life.

In other instances, the edges of the dryer felt are subjected to greater mechanical abrasion than the body of the felt. This condition causes such excessive wear that the felt must be removed before completing its otherwise useful life.

Premature edge degradation is overcome by using oil-resisting, abrasion-resisting man-made-fiber yarns in the edges of dryer felts composed wholly or partly of natural fibers. Spun polyester is the most successful of the yarns.

In the polyester-edge felt, the warp yarns for 3 ins. at each edge are composed of spun polyester. This fiber has much higher abrasion resistance than natural fibers and is not affected by oil.

Moreover, any oil absorbed by the polyester yarns is not diffused past the polyester edge into the body of the felt. Consequently, a polyester-edge felt never has to be removed prematurely.

Here's a Quick Way To Make Nep Counts

• The N. C. State College template system of counting neps can be speeded up by counting holes containing one or more neps instead of counting individual neps. The results are translated into neps per 100 sq. ins. of card web with the aid of a conversion table. Here's how to make the table and use the system.

By ERNEST R. BECKNER

THE TEMPLATE SYSTEM OF COUNTING NEPS, developed by N. C. State College, can be modified so as to cut counting time from 3 or 4 mins. to 2½ mins. per card. Accuracy is not impaired.

The N. C. State template contains 20 holes that represent 20 sq. ins. of card web. Neps are counted in the 20 sq. ins., and the results are expressed in terms of neps per 100 sq. ins. of card web. This figure can be converted to neps per grain where the sliver weight is known.

To reduce counting time, it is possible to count only the number of holes in the template that contain one or more neps and still arrive at the number of neps per 100 sq. ins. of card web and the number of neps per grain. A conversion table is used. Construction of such a table is not too difficult, and fewer decisions have to be made concerning the smallest defect to be counted as a nep.

The modified system has been tested by simultaneously counting actual neps and holes containing neps. Results were the same for all practical purposes. Statistical analysis of the data showed the results to coincide with a probability of 0.99 or better.

Formula Is Used

To construct a conversion table, this formula is used:

$$M = \frac{\text{Log } A - \text{Log } (A - X)}{\text{Log}_{10e}}$$

Where: M = neps per square inch
A = number of cells counted
X = number of cells with neps
$\text{Log}_{10e} = 0.4343$

In constructing the accompanying table, now in use at one large plant, it was found that one 20-sq.-in. sample produced intervals of neps per square inch that were too large. So five samples were taken, and it was still possible to examine 100 sq. ins. of card web in less time than required by the original system.

The accompanying table for 100-sq.-in. sample size gives neps in intervals of 1.8 to 2.5 and neps per grain less than unity in the normal range of neps encountered in the card sliver.

Sometimes it is desirable to count neps in stock other than card web. Here's a useful technique for doing this count:

If the stock is in sliver form, grasp four to six slivers in one hand and hold the bundle of slivers close to the ends between the forefinger and thumb. With the forefinger and thumb of the other hand, grasp and pull a thin sheet of fibers from the fringe of the slivers. Lay these on a dark background and count the neps.

Continue this process until 100 neps have been counted. Then weigh all of the fibers containing the 100 neps on grain scales. Divide the weight in grains into 100 neps and express the quotient as neps per grain.

This method is applicable to sliver in any form.

Conversion Table for Counting Neps

Cells with neps	Neps per 100 sq. ins.	Neps per grain	Cells with neps	Neps per 100 sq. ins.	Neps per grain	Cells with neps	Neps per 100 sq. ins.	Neps per grain
1	1.01	0.3	33	40.1	10.7	65	105	27.9
2	2.02	0.5	34	41.6	11.1	66	108	28.7
3	3.04	0.8	35	43.1	11.5	67	111	29.5
4	4.07	1.1	36	44.6	11.9	68	114	30.3
5	5.13	1.4	34	46.2	12.3	69	117	31.1
6	6.19	1.6	38	47.8	12.7	70	120	31.9
7	7.25	1.9	39	49.5	13.2	71	124	33.0
8	8.34	2.2	40	51.1	13.6	72	127	33.8
9	9.44	2.5	41	52.8	14.0	73	131	34.8
10	10.6	2.8	42	54.5	14.5	74	135	35.9
11	11.6	3.1	43	56.2	14.9	75	139	37.0
12	12.8	3.4	44	58.0	15.4	76	143	38.0
13	13.9	3.7	45	59.8	15.9	77	147	39.1
14	15.1	4.0	46	61.6	16.4	78	152	40.4
15	16.3	4.3	47	63.5	16.9	79	156	41.5
16	17.4	4.6	48	65.4	17.4	80	161	42.8
17	18.6	4.9	49	67.4	17.9	81	166	44.2
18	19.9	5.3	50	69.4	18.5	82	172	45.8
19	21.1	5.6	51	71.4	19.0	83	177	47.1
20	22.3	5.9	52	73.4	19.5	84	183	48.7
21	23.8	6.3	53	75.6	20.1	85	190	50.5
22	24.9	6.6	54	77.7	20.7	86	197	52.4
23	26.2	7.0	55	79.9	21.2	87	204	54.3
24	27.5	7.3	56	82.1	21.8	88	212	56.4
25	28.8	7.7	57	84.4	22.4	89	221	58.8
26	30.1	8.0	58	86.8	23.1	90	230	61.2
27	31.5	8.4	59	89.2	23.7	91	241	64.1
28	32.9	8.8	60	91.7	24.4	92	253	67.3
29	34.3	9.1	61	94.2	25.1	93	266	70.8
30	35.7	9.5	62	96.8	25.7	94	282	75.0
31	37.1	9.9	63	99.5	26.5	95	300	79.8
32	38.6	10.3	64	102	27.1	96	322	85.7

NUMBER OF CELLS CONTAINING NEPS are directly related to the number of neps in 100 sq. ins. of card web. Neps-per-grain column is for 54-grain sliver.

Supervisor Training Pays Off at Lebanon

• Lebanon Knitting Mills has more then quadrupled yarn production without increasing its top supervisory staff. Credit is given to a training program that grooms qualified operators for supervisory responsibilities. Here's how the program works—

INSTRUCTORS CAREFULLY SUPERVISE TRAINEES in the most intimate details of every operation.

LEBANON KNITTING MILLS, Pawtucket, R. I., has increased worsted-yarn production from 10,000 to 45,000 lbs. per week in recent years without adding any additional overseers. At the same time, total personnel increased from about 100 to 250.

At present, there are three overseers (one per shift) in the yarn-manufacturing department and one each in finishing and knitting. The company manufactures 10s to 30s knitting and weaving yarns that are made into jersey and fancy woven goods.

This 350% increase in production with the same number of top supervisors did not happen by accident. It is the direct result of (1) selecting and training the right men for the right jobs and (2) developing assistant overseers who can carry on operations in the absence of the top men.

The present management pattern was set up several years ago when Lebanon was feeling growing pains. At that time a training program was designed to project supervisory needs a year or more ahead in anticipation of expanding production. It was thought that a number of additional overseers might be needed.

Plan Pays Off

It turned out that no additional overseers were required; but the plan has paid off handsomely in better supervisor and employee relations, less labor turnover, better-quality yarn, fewer seconds, and greater production per manhour.

The training program works like this:

When the potential need for additional supervisors—either overseers or assistant overseers—becomes apparent, department heads carefully study each qualified operator and recommend certain individuals for special training. Personality, attitude, ability to get along with people, mechanical aptitude, physical condition, moral habits, and other qualities of the employees are all taken into consideration.

When an operator is selected for this training, he is taken off his regular production job and allowed to work in different departments throughout the mill. His normal pay scale is maintained during this period even though he is not directly in production work.

In each department, he is instructed in the technical aspects of the operation by the supervisor in charge. At times, he works closely with a qualified operator who teaches him the intimate details of certain jobs.

Trainee Works As Assistant

After two months or more of general training throughout the mill, the trainee is put to work as assistant to the man in charge of the specific job he is expected to take over eventually. Here he learns the whys, wherefores, and headaches that will soon be his.

While he is engaged in in-plant training, the trainee also receives theoretical instruction during his off-hours at the Pawtucket Vocational High School. Here he is taught basic mathematics, yarn and machine calculations, machine functions, wool characteristics and properties, reasons for testing, and the use of instruments for checking moisture, fineness, and evenness.

Several of the present staff of supervisors participated in this training program, and they all say that the knowledge and experience gained has proved invaluable in their present jobs.

Create New Design Methods To Increase Fabric Output

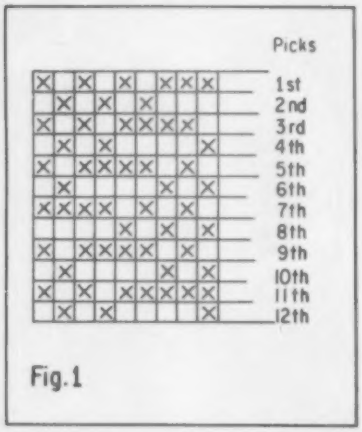


Fig. 1

FALSE STOPS from the filling stop motion are reduced by designing the fabric so that all odd numbers of picks have more harnesses up than the even-numbered picks. The pattern chain is pegged with the shuttle picking from the left-hand shuttle box on the odd-numbered picks.

• Many basic weaves give constant trouble in weaving from only a few fabric faults. But creating new design methods often all but eliminates these defects and at the same time improves over-all weaving conditions.

By DAVID L. GARRETT

MOST FABRICS CAN BE WOVEN at a higher production rate if the fabric construction is studied in relation to the problems it creates. But because each construction creates different problems, the designer cannot always anticipate the trouble until production is started. Therefore some of the weaving faults are not corrected during the entire run of a given fabric.

A novelty weave with more harnesses up on some picks than on others, as shown in Fig. 1, is one of the weaves that often give trouble in the weave room. For weaves such as this one, best results are obtained with the fabric woven face down. As a general rule, the warp-float side is the face.

On this weave, as with other similar weaves, the selvage-cutter cloth roll (C&K loom) or top guide roll (Draper loom) must be run on top of the cloth.

However, this practice does not solve all weaving problems. There are other fabric defects to consider when adjustments are made to the loom such as filling loops at the center of the fabric, drag-ins, and warp singlings.

Change Draft To Stop Lay-Offs

The most frequent fault with fabric constructions with more harnesses up than down is false filling-stop-motion stops (laying off at the fork). When the weave is reversed, this fault is often corrected. But there's danger in some fancy weaves of getting a twill line or general line running in the wrong direction.

So when it's not desirable to reverse the weave, other solutions are possible. In Fig. 1, for example, every second pick has more harnesses up than down, which is a result of a common relationship with the loom picking motion.

Tension on the filling coming from the shuttle is greater when the shuttle is coming from the left-hand shuttle box than from the right box. Shuttle-eye tension is also a determining factor in laying off at the fork. Therefore it's best to have the shuttle picking from the left-hand shuttle box to the right-hand box when most of the harnesses are up. This design also

CONTINUED ON PAGE 170

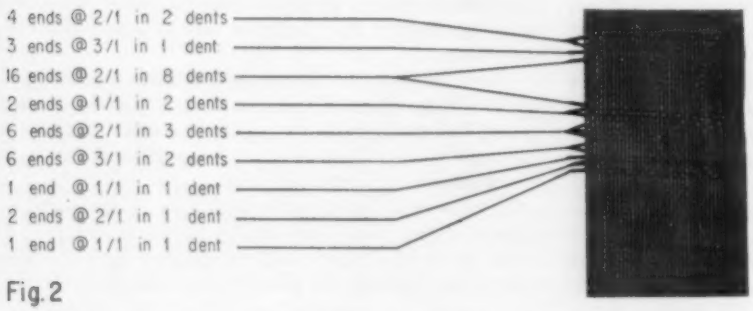

4 ends @ 2/1 in 2 dents
3 ends @ 3/1 in 1 dent
16 ends @ 2/1 in 8 dents
2 ends @ 1/1 in 2 dents
6 ends @ 2/1 in 3 dents
6 ends @ 3/1 in 2 dents
1 end @ 1/1 in 1 dent
2 ends @ 2/1 in 1 dent
1 end @ 1/1 in 1 dent

Fig. 2

MISREEDS are eliminated on fancy reed draws by gluing an actual swatch of the woven fabric to a cardboard, which is marked with the number of ends in a continuous set of dents. Then the weaver can see at a glance how many ends to draw in a given dent.

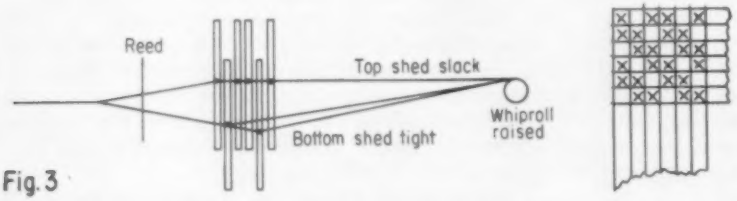


Fig. 3

SET MARKS are reduced or eliminated by designing a 2/1-twill draft with four harnesses out of the total of six in the raised position on every pick. With this draft, the face of the cloth is woven on the bottom side to produce a slack top shed.

How Four Cotton Mills Control Spinning Waste

A survey of four large cotton mills shows that reworkable waste can be controlled in the spinning room by—

- **Checking spinners' waste cans**
- **Posting individual waste reports**
- **Explaining waste control to operators**

REWORKABLE WASTE, when it gets out of hand in the spinning room or in any other department, can become a costly problem. Here's how four cotton mills have reduced reworkable waste at spinning to around 2% or less:

Mill A—

Spinning waste is weighed each day, and each spinner has a daily standard to meet that averages 2%. When waste is over standard, the amount is marked in red on her waste card; when it is under standard, the amount is marked in black.

At the end of the month, the red and black figures are totaled and the results are posted on the bulletin board opposite each spinner's name. Those spinners who have excessive red figures are shown the report before it is posted and are talked to about the importance of keeping down waste. They are urged to try to stay under standard.

The amount of reworkable waste made by each shift is posted in graph form each week. Sweepers are assigned to collect and weigh the waste made on each shift.

Mill B—

Scavenger-roll waste and short pieces of roving from creel piecings are placed by spinners in a special metal box located at one end of the frame. Supervisors spot-check these cans for overly large rolls of scavenger waste and excessive quantities of all kinds of waste.

Individual spinners are checked at irregular intervals by the overseer or second hand who cleans out the cans on each frame and weighs the spinner's waste at the end of each shift.

Supervisors make frequent checks to see that reworkable waste is placed in specified containers and not mixed with sweeps and other nonreworkable waste. Reworkable waste is collected and weighed every 24 hrs.

Spinners are instructed to creel in a new package of roving when one round is left on the old bobbin. These rounds are stripped on a bobbin-stripping machine and weighed daily. The overseer receives daily and weekly reports on bobbin waste, and if bobbins turn up with more than one layer of roving on them the supervisors concerned are notified immediately.

The overseer receives daily reports on the amount of reworkable waste made. He also keeps weekly figures that are charted over long periods of time to show at a glance how his waste record compares with mill standards of 2% for the spinning room.

Mill C—

A 2% standard is set for roving and ends-down waste. Pneumafil waste is weighed each shift, and the amount is recorded and posted each day on a central board that shows the amount of waste made by each spinner on each job on all shifts.

Weights are shown in pounds rather than percentages because the management believes that the former figures are better understood by spinners. The figures, however, are converted into percentages based on each spinner's production at the end of each week. The percentage figures are used to determine which operators are making excessive waste. In this way trouble is pinpointed, and the matter is discussed privately with offending spinners so as not to lower the morale of other spinners.

Waste cans at each frame are taken up 30 mins. before the shift changes; the contents are weighed and recorded and the results are posted immediately. Roving waste is not weighed for individual spinners; it is weighed only for each shift.

Mill D—

The first approach to controlling reworkable waste is an analysis of the weekly waste report by supervisors in the spinning department. The report, made by the quality-control department, shows pounds of yarn spun, reworkable waste in pounds, percent of reworkable waste, and the cost of the waste.

Based on this information, the overseer and second hands set standards they hope to reach in reducing the percentage of reworkable waste made. The pros and cons of the problem are thrashed out at the weekly meeting of spinning-room supervisors. At these meetings, each supervisor is given an opportunity to express himself on the subject. New approaches are sought if reworkable-waste percentages appear to be on the increase.

The next step is to make routine checks on each spinner's job. Notes are made on the number of ends down, break-backs, and roving run-outs. Sources of excessive waste are determined from these routine checks, and in nearly every instance the frame operators rather than the machines are at fault.

But before any drastic steps are taken to correct the out-of-line operators, they are put under observation and their work is studied. All facts affecting each case are considered before any action is taken.

If it appears that the spinner can improve her performance, she is encouraged and the importance of waste control is explained. She is shown waste-report figures, graphs, and charts; and her cooperation in reducing waste is requested.

This program has resulted in reducing reworkable waste from about 3% to the standard of 2%.

The Superintendent Inspects Opening and Cleaning

The second phase of the busy superintendent's daily inspection covers opening and cleaning equipment. He spends only a few minutes in this department, but he thoroughly checks—

- **Conveyor pipes and magnets**
- **Vertical-opener grid bars and waste**
- **Condenser screens for damage**
- **Horizontal-opener beaters and grid bars**

By A. L. LANDAU

THE SUPERINTENDENT, having inspected the opening-room feeders and found them to be running satisfactorily, now heads for the opening and cleaning line, his second stop. He wastes no time because he knows what he is looking for.

He checks the conveyor pipes on the way by looking for partial chokes that might restrict the free movement of stock. Particular attention is paid to the elbows where condensation of moisture is most likely to cause plugging. He knows that a change in direction of the line slows down the movement of the stock and partially prevents the natural wiping action of loose cotton as it moves rapidly along the polished surface.

Magnets Must Be Clean

Magnets, inserted in the line to trap and hold tramp metal, are quickly checked to be sure that they are clean. If too much metal is held, the top pieces will be torn loose and carried along into the opening line.

In the opening room, he first reaches the vertical opener. For a long time discarded by many mills because of fear of curling cotton, this machine is fast being reinstalled for cleaning all but the longest-staple cotton. His inspection here is quick because there are only two settings: the angle of the grid bars and the distance between them and the beater.

Prevention of curling is his main concern, and he knows that curling is caused either by setting the beater too close to the grid bars or by allowing the stock to stay in the beater chamber too long. The distance between the bars and the beater is set according to the staple of the cotton.

In this instance, the standard is ¼ in.; it would be closer for shorter staple and wider for longer fibers. Beater speed is well within the recommended range of 650 to 750 rpm.; so he knows that excessive beating is not causing curling. If the cotton were unusually dirty and short, he'd raise the speed for more-intensive cleaning.

Looking at the waste in the vertical opener helps the superintendent decide if the angle of the grid bars is correct for the cotton being run. Cams open or close the distance between the bars and also regulate the angle of the bars to the beater, both of which affect the amount of waste extracted. Bars set at a flat angle have a minimum opening of ⅛ in. and remove the least amount of trash. Wide angles cause greater waste extraction.

It is the angle of the bars that the superintendent watches rather than the distance between them. These settings are checked visually and by a careful look at the waste in the machine. He knows that the trash should be flecked with a small amount of good fiber and that any drastic change in settings shows up immediately in the quality of the waste being made.

Still on the superintendent's mind is the length of time the cotton stays in the vertical opener; so he checks the fan speed of the condenser pulling the stock from the opener and finds that the speed is about 900 rpm. The relationship of beater speed and air speed to the total amount of beating indicates that this speed is correct for the beater.

If the beater speed is low, fan speed can be increased to pull cotton from the machine at a faster rate. The superintendent knows that this practice is contrary to the ideas of most people, who assume that a low beater speed produces less beating. But he understands how the air current of the condenser is helped by the air current generated by the disks of the beater when it is running at proper speed; he increases speeds if needed.

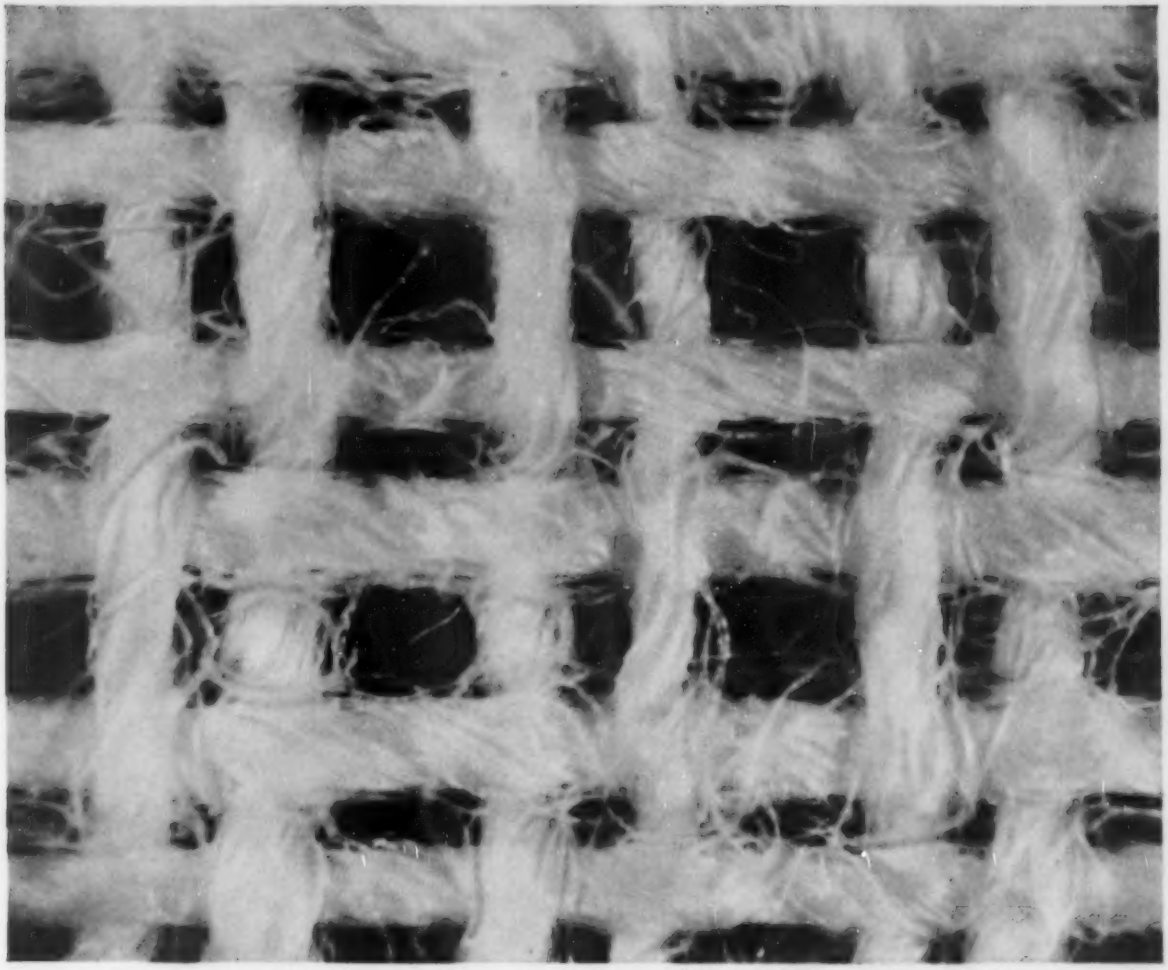
Each condenser is checked as he passes down the opening line. Mainly he is interested in the condition of the screens. The chief object of this part of the daily survey is to spot any screens that may have become dented or knocked out of shape, because uneven screen surfaces collect and deliver stock unevenly. Uneven feed causes high lap variation at the picker.

The superintendent notes in passing that all of the older-type wire screens have been replaced with perforated-metal screens because of their greater strength and smoother surface. He had given this order some time ago.

In this mill, both the superintendent and the overseer check each screen and replacement at regular intervals to make sure that each new screen has the proper-size perforations. Not all screens are the same, and the efficiency of the screen depends upon the amount of surface that is air holes. This amount depends upon the requirements of the condenser location in the opening line. Larger holes are used for a stronger air current, but this requirement must be balanced against the loss of good fiber through the bigger holes.

The standard perforation is ⅛ in. in

CONTINUED ON PAGE 172



Photomicrograph of cotton bleached with hydrogen peroxide

High-white and handsome!

Textiles with high whites and handsome colors usually have the most eye appeal. Shell Chemical products play an important role in the production of today's attractive and useful fabrics.

Hydrogen peroxide, a rapid, economical bleach, also finds use as a developer for vat dyes. In the production of minimum-care cotton fabrics, Eponite® 100 imparts wrinkle resistance. It also is an ingredient in an antistatic finish for synthetics.

The cotton fibers shown in the picture were mercerized for added luster. Another Shell product, hexylene glycol, was used as a penetrant in this process. Glycerine is a mercerizing assistant and a moisturizer in pigment printing. Shell Chemical alcohols and ketones find use as resin solvents and dye dispersants.

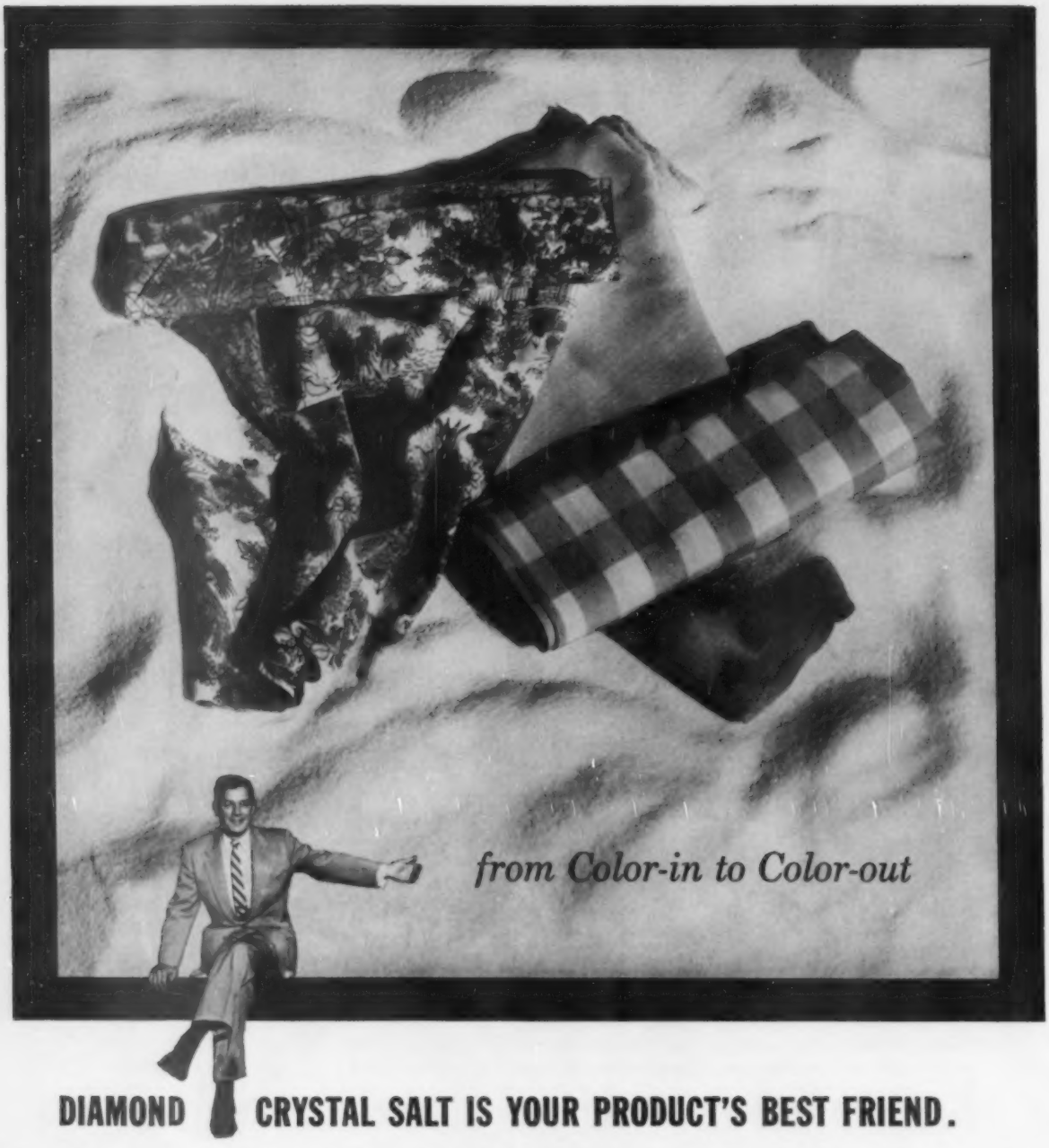
Choose the chemicals for your own process requirements from the column at the right. A Shell Chemical representative will be glad to discuss your specific needs. Write or phone your nearest Shell Chemical office for samples and technical literature.

Acetone
Diacetone Alcohol
Epichlorohydrin
Eponite® 100
Ethyl Alcohol
Glycerine
Hexylene Glycol
Hydrogen Peroxide
Isopropyl Alcohol
Methyl Ethyl Ketone
Methyl Isobutyl Ketone
Sodium Sulfonates

SHELL CHEMICAL COMPANY
INDUSTRIAL CHEMICALS DIVISION

Atlanta • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco
IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited, Montreal • Toronto • Vancouver

SHELL



DIAMOND CRYSTAL SALT IS YOUR PRODUCT'S BEST FRIEND.

In the textile and dyestuff industry, salt of the highest purity will "pay-off" in finished products and profits.

Of prime importance is the saving realized on dyestuffs when you use Diamond Crystal CMF (Calcium Magnesium Free) Salt. CMF Salt is free of metallic impurities which tend to destroy the usefulness and color portion of the dye. The dye job is cleaner . . . your equipment remains free of contamination . . . down-time for cleaning is practically eliminated.

In addition to CMF, Diamond Crystal Louisiana Rock Salt (from the world famous deposits at Jefferson Island La.) has made possible many consistent and marked product improvements. The key? Diamond Crystal Rock Salt is 99% pure at its source. The inherent purity of both CMF or Rock Salt eliminates costly side reactions.

For immediate service and consultation, for all salt needs (Rock or CMF), call the nearest Diamond Crystal Sales office or write to Diamond Crystal Salt Co., St. Clair, Mich.

Diamond Crystal Salt Co.

ST. CLAIR, MICHIGAN

Sales Offices: Akron • Atlanta • Boston • Charlotte
Chicago • Detroit • Louisville
Minneapolis • New Orleans • New York

Plants: Akron, Ohio • Jefferson Island, Louisiana
St. Clair, Michigan

Textile World

CHEMICAL TREATMENT AND FINISHING

IN THIS SECTION

THIS MONTH'S DEVELOPMENTS

Textile Chemicals 69

New Dyes and Chemicals 72

SPECIAL FEATURE

A Progress Report on Chemical Treatment and Finishing. Improved technology and a better understanding of what goes on when fibers meet dyes and chemicals have advanced chemical-treatment and finishing methods in the past year. Constant research is increasing the trend toward more continuous operations, higher processing speeds, and better quality 75

PREPARATION & BLEACHING

10. The Newer Formulations. Non-silicate bleaching. The calcium-phosphate process. Combinations of chlorine and peroxide. Chlorite-hypochlorite formulas. How to check results. 85

FINISHING

The Chemistry and Application of Rug-Backing Compounds —II. Backing compounds—What determines the formula. How compounds are made. Principal application methods. How various qualities are obtained 103

DYEING & FINISHING

Simple Finishing Processes Raise Gray-Goods Value: An Eastern gray mill uses a modern finishing range to prepare goods for napping and to tint or starch fabrics that go directly to the cutter 110

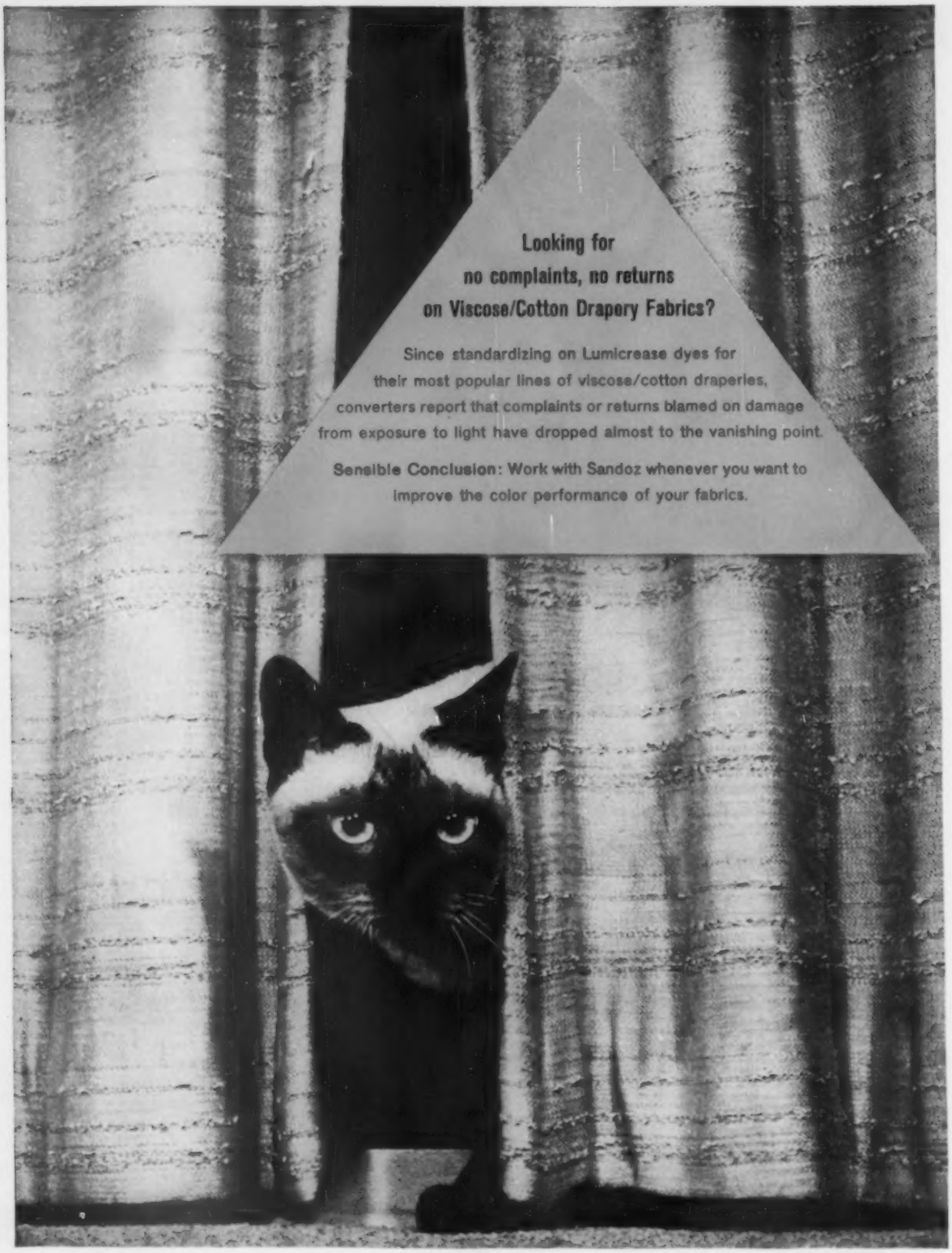

Looking for
no complaints, no returns
on Viscose/Cotton Drapery Fabrics?
Since standardizing on Lumicrease dyes for their most popular lines of viscose/cotton draperies, converters report that complaints or returns blamed on damage from exposure to light have dropped almost to the vanishing point.
Sensible Conclusion: Work with Sandoz whenever you want to improve the color performance of your fabrics.

Photo by Walter Chandoha

SANDOZ

Lumicrease dyes are the product of Sandoz, Inc.

District Sales Offices: Charlotte; Cincinnati; Hudson, Mass.; Los Angeles; New York; Philadelphia

61-63 VAN DAM STREET, NEW YORK 13, N. Y., ALGONQUIN 5-1700

Surface Heating Reduces Pilling –

Polyester-fiber fabrics that tend to pill can be improved in this respect by a patented process recently assigned to E. I. du Pont de Nemours & Co., Inc. The goods are first treated in a solution containing at least 5% by weight of compounds selected from polyether glycols, their ethers, esters, or mixtures thereof, in which the alkylene-oxide component has a molecular weight of at least 300. Then at least one surface of the fabric is heated to just below the fusion point of the surface fibers in such a way as to avoid heating the body of the fabric.

Assistant for Triacetate Printing –

Better color yield from a wider range of disperse and basic dyes is claimed for a printing assistant developed and patented by Celanese Corp. of America.

About 4%, based on the print paste, of beta-phenoxy ethanol, alpha-phenyl ethanol, or beta-phenyl ethanol are added to print pastes thickened with alginate or locust-beam gums to get the improved results.

After the goods are printed, they may be heat-treated by wet or dry methods at 220 to 240° C. to increase fiber crystallinity and raise the safe ironing temperature.

If dry heat is used, exposure for 10 to 35 secs. at 220 to 235° C. is sufficient. With steam, the temperature need not exceed 135° C.

With this assistant, practically all the color becomes fixed in the fiber during the heat-treating, in contrast to the effect of tripropyl phosphate, which has been effective in dyeing methods.

Gas-fading agents can be added to the print paste if the colors require it.

Premercerize for Rayon Wash-And-Wear –

Premercerizing improves wash-and-wear characteristics of resin-treated rayon fabrics, but the process is tricky and requires close control.

Extensive work by Courtaulds Ltd. shows that if premercerizing is done in a liquor containing 7% NaOH and the liquor content of the goods is held closely to 150 to 175 grams of liquor per 100 grams of goods, an aftertreatment with conventional resins produces rayons with good wash-and-wear characteristics.

The immersion time in the caustic is held to 3 secs. at 27° C., and the saturated goods may be exposed for another 25 sec. before washing begins.

Caustic absorption is quite preferential; so feed liquor is made up at the rate of 7.9% and cooled to 20° C. Wetting agents help in getting fast penetration of the caustic, which is essential in a short exposure.

Cross-Linked Antistatic Finish –

Application procedures for durable antistatic finishes are simplified when Aston 123 is cross-linked with Eponite 100 according to Onyx Oil & Chemical Co., Jersey City, N. J. Aston 123 is made by Onyx; Eponite 100 is an epoxy resin produced by Shell Chemical Co.

Advantages of the combination include elimination of the curing step formerly required, the afterwashing of medium and dark shades and less-critical pH conditions of application.

The treating solution is made up by mixing one part of Eponite 100 with 10 parts of Aston 123.

Plant conditions will determine the concentration, which should be adequate to deposit 1 to 2% of antistatic material on the fabric. The chemicals are first thoroughly stirred at room temperature in one-third to one-half the total volume of water to be used, and the pH is adjusted to 6.0 to 8.0 with HCl. A softener may be added if necessary; and it is advisable to include 0.25 parts by weight of Neutronyx 600, based on the amount of Eponite 100 to improve bath stability.

The solution is then brought to volume with water at room temperature and agitated.

Goods are padded in this solution without heating and then they are dried by conventional means.

The combination of chemicals for antistatic purposes is the subject of a patent application by the Textile Fibers Dept. of E. I. du Pont de Nemours & Co., Inc., to cover application on fiber, tow, yarns, and fabrics; but fabric application has been made royalty-free to the industry.

New Activator for Chlorite Baths –

Faster bleaching with less fiber degradation is claimed for chlorite-bleaching baths activated by a product developed by The Bleachers' Association Ltd., Manchester, England.

The activator is based on triethylene glycol and succinic acid, which are reacted in a molecular ratio of 0.5 to 1.0 to a point just beyond where the free acid crystallizes out on cooling.

The polyester so formed has an acid value of 250 mg. KOH per gram.

The bleaching bath is made up by adding 12 lbs. of sodium chlorite to 60 gals. of water and 9 lbs. of the polyester described above. Goods are treated for 1 hr. at 80° C. and then scoured for 1 hr. at the boil in 12 lbs. of soap per 60 gals. and a small amount of caustic soda. The bleaching process is then repeated, and the goods are finally thoroughly rinsed. It is claimed that linens can be bleached by this method with about 50% of the usual weight loss and with less loss of strength.

Degreasing Process Also Removes Dirt –

A solvent degreasing process for wool that also removes dirt has been developed by Imperial Chemical Industries Ltd.

Earlier solvent degreasing processes were satisfactory as regards the removal of oily matter, but entrained dirt was largely left in the fiber. In the new process, wool is first degreased with hot perchlorethylene or trichlorethylene, squeezed out, and then led immediately into boiling water, which flushes off the solvent and loosens the dirt so that it drops away from the fiber. The dirt is not redeposited.

The degreasing apparatus is set up to give the fiber 30 to 120 secs. exposure to the solvent and 50 secs. or less to the hot water. The cleaning effect is claimed to be equal to a normal alkaline scour.

AATCC Looks to the Future –

Last month, AATCC's Long Range Objectives Committee reported to the National Council its suggestions for broadening the association's field of activities.

The committee recommended:

1. Inclusion of all textile-like materials, such as plastics, foams, leather, metals, and glass, in AATCC's operational area.
2. Expansion of color technology to include all materials in respect to color evaluation.
3. Aiding with the establishment of standards through greater cooperation with such agencies as the Federal Government, the American Standards Association, and the International Standards Organization.
4. The publication of its own technical journal.
5. Augmenting technical and scientific activities by more voluntary research committees and a larger National Headquarters staff.
6. Eventually supplanting laboratory operation by the association with outside facilities as more economical and effective.
7. Encouraging research at all association levels. Awards, fellowships, scholarships, and other means of interesting young people in textile technology should be increased within the limits of AATCC's operations and budget.
8. Cooperating with colleges with an eye to improving the professional quality of AATCC members through improved curricula.
9. Broadening the relationship of AATCC to its members to aid the development of the professional character of its members as a corollary to the work with colleges and textile schools.

10. Organizing a public-relations program, preferably headed by a full-time director of information.

11. Improving consumer relations by working with trade organizations that are actively interested in the consumer area of the industry.

12. Setting up a marketing and economics committee to aid both the members and the textile industry with respect to information that concerns changing trends.

13. Reviewing AATCC properties, including publications, to finance the objectives outlined in the recommended program.

14. Restating AATCC's objectives to include the widening scope of activities suggested in the report.

15. Keeping the present association name because it is adequate and proper.

16. Retaining National Headquarters at Lowell, Mass., at least for the present.

Wet-Fixing Improves Resin Retention –

Cotton goods impregnated with melamine-formaldehyde resins and cured with saturated steam at 110° C. for 2 hrs. show quite different properties from those cured by dry heat.

The process was developed and patented by Ciba at Basle, Switzerland.

Tests on fabrics cured by the steam process show that strength and durability of the fabrics is better when the resin has been steam-cured.

Wool-like dyeing properties are also imparted to cotton, and its resistance to light and micro-organisms is improved. The resin content of the goods is also much more resistant to hot acid or alkaline scouring treatments.

New Test for Tin Compounds –

The very small amounts of organo-tin compounds that are applied to cottons to impart fungal resistance can be determined by an analytical method developed by the Australian Defense Standards Laboratory, Melbourne, Australia.

The test is based on the fact that trace amounts of tin will give a stable green coloration as a reduction product of silico-molybdic acid. The green compounds are formed from both a- and B-silico-molybdic acid on the addition of up to 0.5 grams equivalent of stannous chloride.

The new green compounds are entirely different from the reduction compounds obtained with four- to five-gram equivalents of stannous chloride. The tin content of treated cloth is determined by optical comparison at 6800A of the color density of the cloth extract with tin-silico-molybdic acid solutions of known concentration.

The test will detect 0.05 to 1.25 mg. of tin per gram of cloth and is accurate within ± 4%.

Triazinyls Control Wool Chlorination –

Triazinyl compounds such as 2-mono-hydroxyethylamino-4:6-diamino-1:3:5-triazine and 2:4-bis-(hydroxyethylamino)-6-amino-1:35-triazine control the effect of chlorine on wool to produce a better product, according to a patent issued to J. A. Geigy A.G., Switzerland.

As little as 0.1 to 0.6% of such compounds, calculated on the weight of the wool, will insure uniform chlorination of the wool from the usual acidified hypochlorite baths. The chlorination bath should be set at pH 1.5 to 3.5 and should contain 0.3 parts sulfuric acid in 150 parts of water to each 5 parts of wool.

To this bath is added 0.13 parts of 2-mono-hydroxyethylamino-4:6-diamino-1:3:5-triazine. The hypochlorite solution is added gradually to a total of 0.075 parts of active chlorine.

The treatment is complete in 30 mins. at 15 to 20° C. The usual neutralization with sodium bisulfite follows. Wool processed under these conditions has a full, soft hand and good resistance to felting and dyes evenly.

Did You Know . . .

. . . that sulfur dyes can be modified so that they are water-soluble? Ordinary sulfur dyes that have been treated with 2-nitro-1-chloro-4-sulfonate and ethylene chlorohydrin are soluble in water and suitable for dyeing wool or nylon. Once absorbed by the fiber, the dyes become water insoluble.

. . . that the treating temperature has an effect on the permanence of mothproofing processes? Roy E. Bry, USDA entomologist, told the Southeastern Branch, Entomological Society of America, recently that DDT applied at bath temperatures of 100, 140, 180, and 212° F. showed that at the higher temperatures the mothproofing effect was more resistant to removal by dry cleaning.

•

. . . that you can produce a wash-and-wear finish by treating cotton with formaldehyde and glacial acetic acid? A brief German report states that the goods are immersed in a mixture of formaldehyde and glacial acetic acid containing 9% of water by volume. The formaldehyde in the solution wets the fibers, and the glacial acetic acid causes a partial swelling. The treated fabric resists wrinkling whether wet or dry and requires a minimum of ironing.

•

. . . that Japanese silk finishers are turning to resins to improve their fabrics? Nearly 3-million yds. of silk goods were resin-finished in 1959, of which 70% were exported. There is also a swing toward water-repellent finishes, flameproof finishes, and fully shrunk fabrics that will meet wash-and-wear requirements. The latter are mainly silk-and-cotton blends.

NEW DYES AND CHEMICALS

Softener

Durafluff . . . is a cationic softener that improves the drape and hand of fabrics as well as increasing abrasion resistance. Improved sewability, reduced needle cutting, and improved tear strength can be expected of fabrics treated with the product.

Application can be made in any conventional equipment at a rate of 3 to 4% based on the weight of the goods. Manufacturers Chemical Co., Inc., 930 N. Darien St., Philadelphia 23, Pa. **(Circle D-1 on Reader-Service Card)**

Polyethylene Resin

Epolene LVE . . . is a low-viscosity (170 cp. at 160° C.) emulsifiable resin that is recommended as a softener for wash-and-wear finishes to improve abrasion resistance. Eastman Chemical Products, Inc., 260 Madison Ave., New York 16, N. Y. **(Circle D-2 on Reader-Service Card)**

Pigment White

Eccoblanc W-45-B . . . is recommended to printers for the production of pure-white discharge effects on dyed goods. The product is based on titanium dioxide and is supplied with a noncuring binder and nonyellowing whitener. It is shipped in the form of a semifirm paste that is stable to storage indefinitely and is compatible with most printing systems, including some water-in-oil systems. Eastern Color & Chemical Co., 35 Livingston St., Providence 4, R. I. **(Circle D-3 on Reader-Service Card)**

Reactive Dyes

Geigy Reactone . . . will brand the latest of a series of reactive dyes. The colors are distinguished by brilliancy of shade, outstanding solubility, good build-up to full shades, and easy removal of unfixed color. The dyes are essentially nonstaining to white grounds. Geigy Chemical Corp., Ardsley, N. Y. **(Circle D-4 on Reader-Service Card)**

Reactive Printing Colors

Drimarene Z . . . identifies a line of reactive dyes that have been designed especially for printing cellulosic fibers.

Print pastes based on these colors are exceptionally stable and can be kept for weeks without deterioration. Unfixed color washes off readily in conventional washers, and the low affinity of the dyes for cellulose prevents staining of unprinted portions of the fabric.

The dyes can be printed alongside other classes of dyes by simple processes. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y. **(Circle D-5 on Reader-Service Card)**

Premetallized Dye

National Alizarine Cyanone Green 4G . . . has good over-all fastness when it is applied to wool and nylon and exhibits exceptional resistance to light.

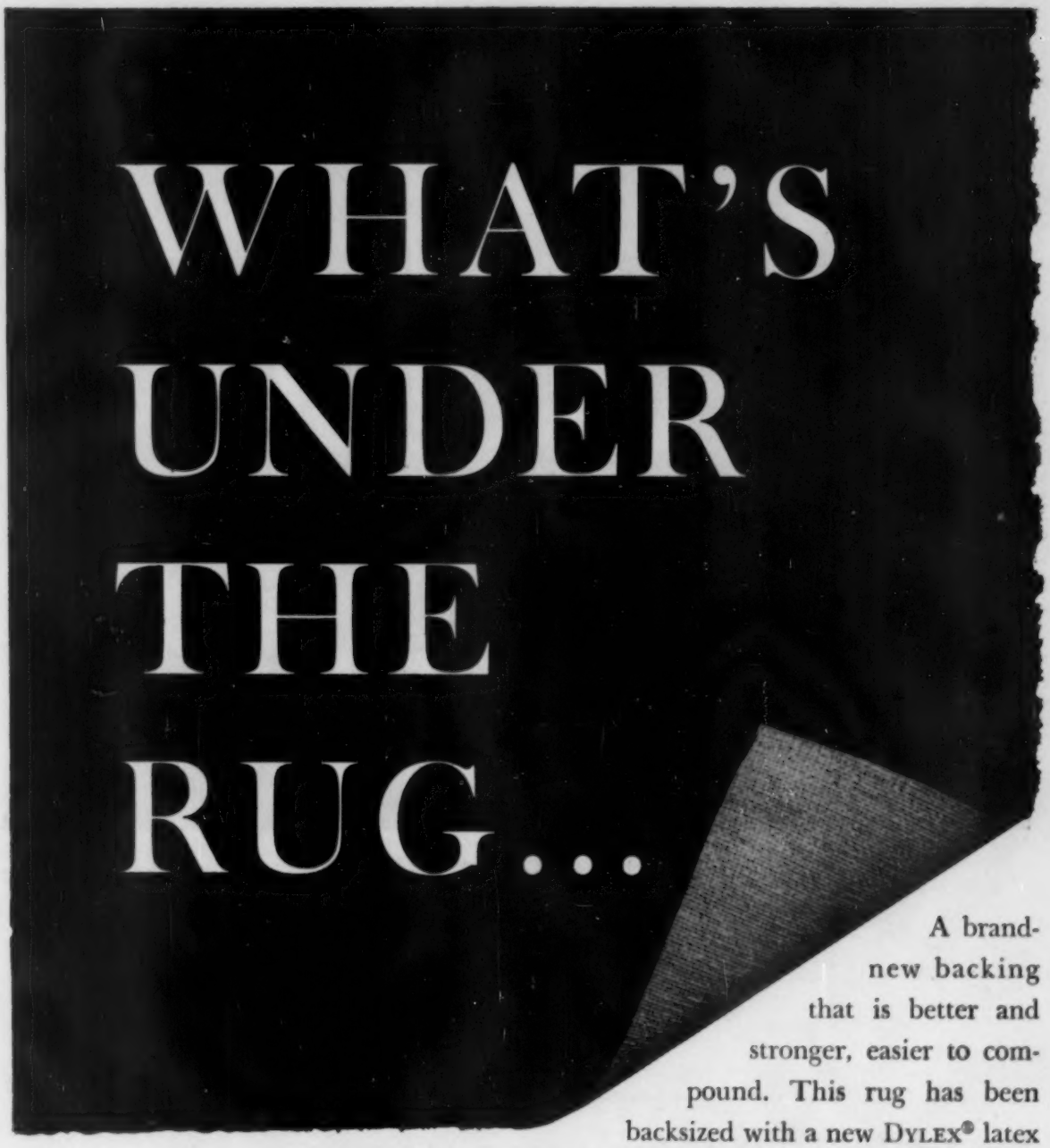
The color is recommended for outerwear as a self shade or for shading both chrome and neutral-dyeing premetallized dyes. National Aniline Div., Allied Chemical Corp., 40 Rector St., New York 6, N. Y. **(Circle D-6 on Reader-Service Card)**

Nonionic Emulsifiers

Peglo . . . is a generic term for a series of nonionic emulsifiers that are characterized by bland odor, pale color, and excellent heat stability.

The emulsifiers are based on tall-oil acids and polyethylene glycols and can be blended to meet any emulsion requirement. The products work well with anionic or cationic constituents. Pennsylvania Refining Co., Butler, Pa. **(Circle D-7 on Reader-Service Card)**

WHAT'S UNDER THE RUG...



A brand-new backing that is better and stronger, easier to compound. This rug has been backsized with a new DYLEX® latex that gives better bonding strength and adhesion, more tuft-holding power. This new DYLEX latex is used for non-vulcanized backings. It contains no sulfur compounds . . . no accelerators. This DYLEX latex requires no precuring and it gives you a wider range of dyestuffs. Find out how DYLEX latices can help you make better rug backings at less cost. For more information, or a list of compounders using DYLEX latices, write to Koppers Company, Inc., Plastics Division, TW-30, Pittsburgh 19, Pa. Offices in Principal Cities. In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

KOPPERS PLASTICS

CIRCLE 73 ON READER SERVICE CARD 73

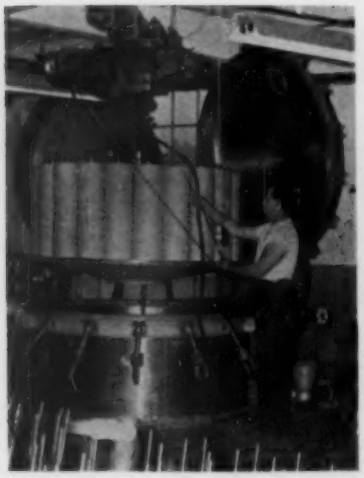
Piccopale emulsions

the perfect mixer. Piccopale emulsions fortify and improve the important properties of latices, resin emulsions and other water-based systems. Available in a variety of grades, these emulsions are broadly compatible, water and alkali resistant, provide excellent adhesion and pigment binding, are low in cost and available in abundant supply.

The trademark of quality

PENNSYLVANIA INDUSTRIAL CHEMICAL CORPORATION
CLAIRTON, PENNSYLVANIA

A Progress Report on Chemical Treatment and Finishing



HALF THE HANDLING and twice the production result from the newer large-package dyeing machines that are installed in Homestead Mills, W. Swanzey, N. H.

Improved technology and a better understanding of what goes on when fibers meet dyes and chemicals have advanced chemical-treatment methods in the past year. In practically every branch of the industry, constant research is increasing the trend toward—

- **More continuous operations**
- **Higher processing speeds**
- **Better quality**

By **ROBERT W. PINAULT,** Associate Editor, TEXTILE WORLD

IMPROVEMENTS IN EXISTING PROCESSING METHODS rather than any radical new developments keynote recent trends in chemical treatment and finishing.

Basic research on fiber structure, dye behavior, the effect of various chemicals on all fibers, and many other factors continue to pay off in better work and lower costs.

PREPARATION AND BLEACHING

Starting with the desizing of cotton goods, current practice is away from singe-desize-layover methods to continuous processes that take only a few minutes.

Good results are being obtained from both acid and alkaline treatments to solubilize starch. Steamers similar to those used on dyeing ranges are installed ahead of continuous bleaching ranges to give nearly instant desizing.

A new process that uses sulfuric acid and steam to remove size is giving good results in the laboratory.

Truly continuous processing from bale to bleached goods is thus now possible for many constructions.

Solvent Prepare May Replace Water

Emerging from laboratory-trial status to full-scale production methods are a patented solvent-hypochlorite-peroxide routine and a really continuous sodium-chlorite process. The solvent-peroxide method is a British development that depends on trichlorethylene or perchlorethylene for the removal of all fatty matter and follows up with a short acidified-hypochlorite treatment and a 30-min. peroxide bleach.

The method has been applied successfully to ramie, jute, linen, and glass-fiber fabrics.

Europe Stresses Chlorite Methods

Sodium chlorite, generally looked on as too expensive for large-scale continuous operations here, is much used in Europe.

Aside from cost, ClO_2 vapors that must be generated to produce any bleaching effect are extremely corrosive. Swiss engineers have minimized this trouble by utilizing ceramics or by lining exposed areas with pure tungsten.

Chemists have helped by developing activators derived from organic acids and weak bases that hold ClO_2 fumes in check until heat is applied in the specially lined J-boxes that are used to store the goods while they are bleaching. Esters of lactic and tartaric acid are also used as activators.

Recent developments in inhibitors that reduce the damage from free ClO_2 include the use of sodium, potassium, or ammonium formate at the rate of 0.1 gram per liter

Geigy Reactone
Geigy
Reactone, the latest in Reactive Dyestuffs for Printing.
Geigy's Reactones offer Brilliant Shades, Outstanding
Solubility, Excellent Print Paste Stability, Build-up
to Full Shades, Rapid and Simple Removal of Unfixed
Color at Moderate Temperatures, leaving Grounds Clear.
Request color brochures and printed samples
from any of our branches
Geigy Dyestuffs, Division of Geigy Chemical Corporation,
Ardsley, New York.

of bleach bath. Citric acid and sodium nitrate are used together in chlorite baths buffered with sodium phosphate to keep corrosion to a minimum.

In this country, there is increasing interest in continuous processes that combine the advantages of chlorine and peroxide to produce a better bleach at lower cost.

Such systems are particularly valuable in the treatment of goods that contain colored fly; and at the same time, the cheaper chlorine displaces more than its equivalent cost in peroxide. Chlorine-resistant stainless steel is necessary in the chlorine saturators and the small J-box that is used in the chlorine-peroxide system.

Peroxide Systems Are Improved

The great bulk of cotton goods is now bleached in rope form with peroxide by well-established methods.

The single-stage system has been accepted as workable by many plants, but most such installations include a pretreating washer and small J-box that replace the older caustic impregnator and large J-box. Often there is a brown-sour range to one side that is used to pretreat goods that are a little too much for the single-stage process.

The fastest bleaching process so far announced in the U. S. is based on saturating cotton goods with a peroxygen solution and subjecting them to saturated steam at 275 to 400° F. for 60 secs. The process is patented (U. S. Patent 2,839,353) and assigned to E. I. du Pont de Nemours & Co., Inc. If workable on a practical basis, the method appears to be about the last word in high-speed bleaching.

Interesting and worth-while changes in basic peroxide formulations include the silicate-free formulas and the addition of persulfates to cold-bleach batch methods to improve color and absorbency.

The silicate-free bleaches are buffered with calcium phosphate and cost slightly more than silicate-buffered formulas, but they are particularly useful in preparing goods for dyeing. Less dyeing trouble attributable to bleaching and better-stabilized baths cancel out slightly higher costs.

Calcium-buffered bleach baths depend on the natural calcium content of processing water, which is converted to the phosphate by adding disodium phosphate to the peroxide saturator. Very soft water may require the addition of a small amount of calcium chloride to provide enough calcium ions.

The first significant improvement in cold-bleach methods was reported last year and calls for the addition of sodium, potassium, or ammonium persulfate to a silicate-buffered peroxide bath. Somewhat better color and very much improved absorbency can be obtained with the persulfate modification. What happens is not clear because analysis shows few other differences in samples treated with persulfate or without.

There is little doubt that persulfates will find uses in continuous bleaching ranges in cases where present formulas are giving border-line results.

Where Open-Width Bleaching Stands

Aside from batch methods, continuous open-width bleaching in this country is done on a relatively small scale. The conveyor-type ranges are satisfactory but expensive and space consuming. Open-width J-box methods still produce incipient creasing and rub marks that may show up in resin finishing or dyeing.

Two European manufacturers have developed continuous open-width machines that are in commercial use. One uses a double-beam principle that, once loaded, takes in and delivers cloth continuously. The other depends upon a storage scray to achieve a similar purpose. Both machines can be operated at somewhat higher temperatures than most American designs.

Pressure Systems Coming Fast

The problem of developing really useful pressure with its attendant higher temperature in a continuous system is not easy to solve, but two American machine makers are about ready to market a pressure-seal system that could well mark the next major change in bleaching methods.

Higher speed, smaller machines, and better quality can be expected from a successful continuous bleaching range that can operate at 15 to 25 psi.

A good deal of cotton is still boiled off in kiers and bleached with hypochlorite, peroxide, and to a lesser extent with sodium chlorite.

Few changes in kier processing have been made; but great improvements have been made in intermediate washing between boil-off and bleaching, and bleacheries are going more and more toward low-tension washers supplied with temperature-controlled hot water. Fewer washers and less water produce cleaner goods than the older types.

Syndets Improve Wool Washing

A switch to synthetic detergents in place of older soap-and-soda ash formulas is the primary change in wool-preparation methods. Fiber color and strength are better when wool is scoured with detergents plus very small amounts of alkali.

Few changes have been made in preparing the man-made-fiber fabrics, which present relatively few problems as regards cleaning and bleaching.

HEAT-SETTING

Unsatisfactory results of early wet methods of setting nylon fabrics caused processors to turn almost entirely to high-temperature dry methods to get dimensional stability. Uniform width and continuous operation afforded by the dry-heat methods are their good points, but the temperature necessary for dry heat-setting in a few seconds' exposure is quite critical and must be controlled within close limits to avoid yellowing or stiffening of the fabric.

A French manufacturer has overcome the width-variation problem in autoclave-type wet-heat-setting operations by inserting stainless-steel pins radially through the edges of nylon tricots that have been wound on a perforated beam.

Goods are scoured, heat-set, and dyed without any extra handling. Superheated water at 130 to 140° C. is

When it comes to

MINERAL ACIDS

SULFURIC ACID
Standard: 60° and 66° Baumé, 99% H_2SO_4
Diamond: 66° Baumé
Reagent, ACS

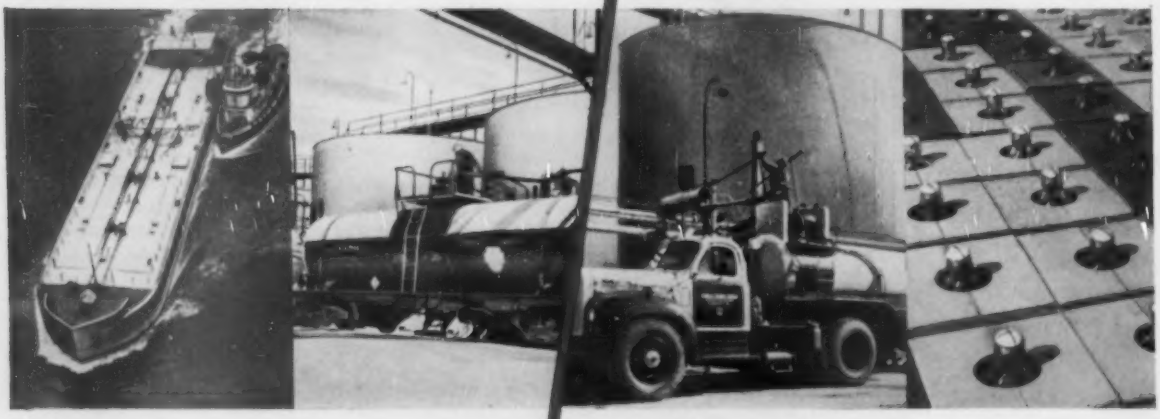
NITRIC ACID
Diamond: 36°, 38°, 40°, and 42° Baumé
Strong Nitric Acid, 95% and fuming grades
Photo-Engravers' Grade
Reagent, ACS

MURIATIC (Hydrochloric) ACID
18°, 20° and 22° Baumé, Standard, Diamond, Crystal and Reagent Grades

HYDROFLUORIC ACID
Anhydrous, Aqueous 70%, and Reagent

PHOSPHORIC ACID
Wet Process, 65% and 75%, Com'l and Fertilizer Grades
Food Grade, 75%
N.F., 85%

MIXED ACID
Varying proportions of Nitric and Sulfuric Acids to meet customers' requirements



Come to

GENERAL CHEMICAL

For 60 years, General Chemical has been the nation's primary producer of heavy acids. General has its own basic raw material sources. Its production facilities include 21* sulfuric plants, 4* hydrofluoric plants, 3 nitric and 3 muriatic acid plants. It operates one of the nation's largest fleets of tank cars, tank trucks and acid-carrying barges, and distributes from key points coast-to-coast. General's production, transportation, service and sales facilities are geared to meet your requirements best, both in quality of product and dependability of service. Write or phone today for information or service.

Basic to America's Progress

Allied Chemical

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N. Y.

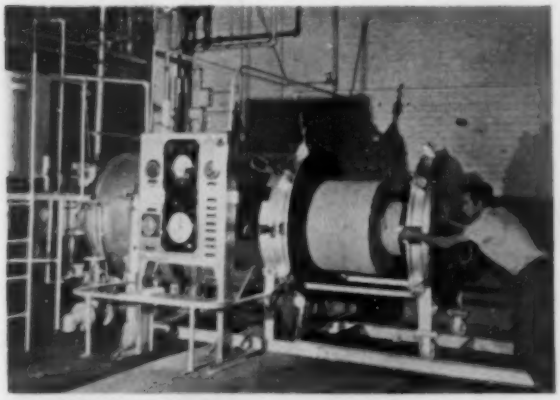
*In Canada: Allied Chemical Canada, Limited

used to set the goods.

Another wet method of heat-setting includes passing the wet fabric between an impermeable continuous blanket and a heated cylinder. This principle is used in the Montforts reactor, which is in use in Europe and is also being tried out in this country as a means of dyeing triacetate and polyester fabrics.

Steam generated by the hot cylinder is trapped under the blanket, and temperatures of 230 to 275° F. are easily obtained.

DYEING



PRESSURE VESSELS such as this have proved useful to build up heavy shades in beam-dyeing hydrophobic fabrics that are slow to absorb dyes.

The reactive dyes, now available for wool and nylon as well as cotton, fill a gap between direct colors and vat dyes and even exceed vat-dye fastness in some colors. They can be expected to increase in importance.

Cotton piece-goods dyeing methods remain fairly static and probably will change very little until pressure systems are workable. Package-dyeing routines are definitely speeded up by the use of pressure for bleaching and dyeing.

Much effort has been spent on attempts to improve results and reduce the dyeing time on man-made-fiber fabrics and fabrics made of blends of natural and man-made fibers.

So far, exhaustive research into fiber nature and the physics of dye-molecule behavior have come up with little that hasn't been known for some time, that is, that either high temperature or carriers are still necessary for dyeing the polyester fibers in dark shades.

Dacron Type 64 has been developed to accept cationic dyes, but lightfastness of the shades is not good enough for men's-wear materials.

Acrylics and blends of acrylics with cellulosic fibers or wool continue to depend heavily on dye selection, retardants, agglomerants, and leveling agents to produce dark shades and, in the case of blends, good unions.

Some advances in the dyeing of polyamides, polyesters, and acrylics seem apparent in recent patents. Soluble-vat and sulfur dyes can be applied to acrylic or polyester fibers with the aid of N-lower alklyl-2-pyrrolidone. Polyester fibers respond similarly if N-methyl-2-pyrrolidone is the assisting compound.

Wool and nylon can be dyed continuously with the aid of N-lower alkyl-2-pyrrolidones in a bath that also contains acid-reacting salts of weak bases and certain organic esters. A wide range of dyes work well on either fiber if applied at 200° F. for 30 secs. and steamed at 215° F. for 3 mins.

Deeper shades on polyester fibers can be obtained with disperse dyes if the dyebath contains about 5% of trichloroacetic acid, according to a British patent.

Other interesting discoveries in wool dyeing include almost instantaneous dye absorption from formic-acid baths and the use of small amounts of butyl or benzyl alcohol in wool dyebaths to speed dyeing. Success of the formic-acid process will depend in part on the development of a recovery system for the formic acid.

PRINTING

An important improvement in pigment-printing systems is based on a reactive ingredient that forms cross-links with both the binder and the fabric.

The application of vat pigments in emulsions rather than conventional starch pastes is already well established and is notable for greater color value and sharper prints.

Roller printers are also turning to very large repeats—up to 36 ins.—to combat the inroads made by screen printers. The print rolls are copper-plated steel shells.

Flash-ageing has been improved with the Shirley unit that carries printed goods between an endless blanket and

SCREEN PRINTING is continuous on this machine, a relatively new development that will operate at 50 to 60 yds. per min.

for Knitgoods Dyers . . .

PROCION

reactive dyes for COTTON and RAYON

PROCINYL

reactive disperse dyes for NYLON

level dyeing

versatile application

good wetfastness

good lightfastness

Quality PRODUCTS Integrity

ARNOLD, HOFFMAN & CO., INCORPORATED

55 Canal Street, Providence, Rhode Island • Est. 1815

A Subsidiary of Imperial Chemical Industries Limited, England

West Coast Representative: Chemical Manufacturing Company, Incorporated of California

Procion and Procinyl dyestuffs and the processes for their use and application to textiles are the subject of patents and patent applications in the U. S. A. Trademarks of I. C. I. Ltd.

523-9

dry cans. Moisture is provided to create steam, and working temperatures up to 220° F. are possible. The cans are cleaned continuously to avoid mark-offs.

Acid ageing by flash methods is gaining in popularity. The smaller equipment used for the process costs less and can be maintained at less cost than the older, larger acid agers.

FINISHING

THIS MOISTURE-CONTROL INSTRUMENT is typical of equipment necessary to produce certain types of resin finish. Tenter speed is regulated by the instrument to deliver goods with predetermined moisture content so that calender effects will be permanent.

Resin finishing has given cotton a new appeal as an apparel fabric. In 1959, over 2-billion yds. of cotton goods were given some sort of wash-and-wear finish.

Admittedly far from perfect as yet, this type of finish has come a long way. In the past year, many of the early faults of resin finishes have been overcome or at least reduced to minor objections.

The trend is toward the development of fiber-modifying treatments and improvements in cross-linking additives.

SRRL Research Improves Resins

Government laboratories have been active in wash-and-wear research for both cotton and wool fabrics.

Experimental work at Southern Regional Research Laboratory, New Orleans, La., has shown that blends of urea-formaldehyde resins with methylol derivatives of ethyltriazone combine low-cost features of U. F. resins with protection from chlorine damage afforded by the triazones. The mixture produces adequate crease resistance with acceptable strength loss.

Another resin blend that shows promise is based on mixing dimethylol ethylene urea resins with formulas such as are obtained by reaction of diethylene glycol with formaldehyde or pentaerythritol and formaldehyde. Good wrinkle resistance and durable chlorine resistance to laundering are features of this combination.

SRRL research on flame retardants disclosed the fact that tris (l-aziridinyl) phosphine chloride has excellent wash-and-wear properties although it is at present too costly to use for this purpose.

In the last year, SRRL has also developed a resin described as a dimethylol derivative of tetrahydro-5 hydroxy-2 (1H) pyrimidinone. It has excellent resistance to the formation of chloramides in commercial laundering, and its wash-and-wear characteristics are durable to laundering.

Water Repellency Gets Big Boost

A synergistic combination of pyridine- and fluorocarbon-based compounds provides the sharpest advance in water-repellent treatments for cottons since the discovery of the early durable types. Developed by the Army Quartermaster Research & Engineering Center, Natick, Mass., the finish resists drycleaning and up to 15 2-hr. launderings. At this time, U. S. processors are having some difficulty with this combination of ingredients, which tends to separate in the pad. A British concern claims to have solved this problem with a bath additive that stabilizes the emulsion.

Better Finishes Help Wool

Spurred by inroads of man-made fibers into markets once securely held by wool, researchers have come up with better ways to reduce wool shrinkage and to produce permanent pleats and creases in wool fabrics.

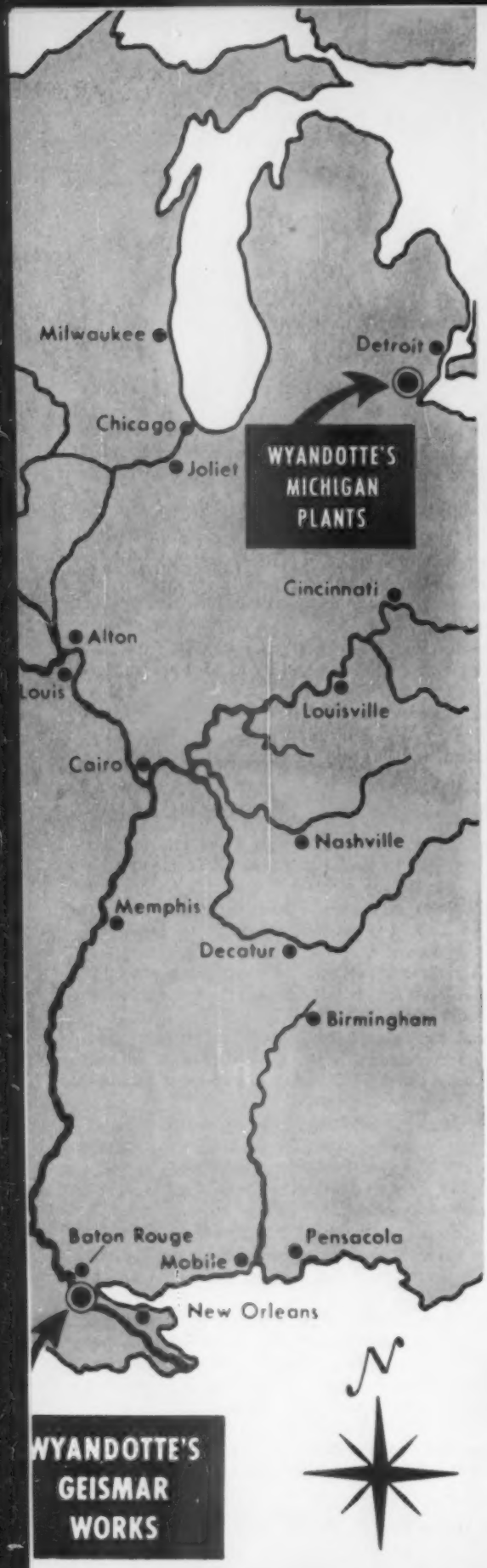
Thioglycollic acid is the basic chemical used in permanent-pleating processes.

Wool shrinkage-control methods have been generally based on chlorination, but one new process involves the use of epoxy resins to control fabric appearance and dimensional stability. A combination of peracetic acid and sodium hypochlorite is also claimed to make woolen socks virtually shrinkproof to repeated machine launderings.

Another development in wool-shrinkage control is based on applying a polyamide to the fiber and then exposing the treated material to vapors of a polyepoxide such as butadiene dioxide. A curing process follows, which produces a resin that stabilizes woolen or other fabrics.

The latest process developed to cut wool shrinkage is based on treatment with potassium bromate and came as a result of research to find uses for the heavy bromide content of Dead Sea waters.

A better knowledge of fabric geometry is also helping considerably in the problem of wool shrinkage. An extensive investigation of the effects of laundering and drying on commercial woolen fabrics revealed that in some constructions woolens are remarkably stable to mild laundering and tumble drying. Good design coupled with chlorination appear to be key factors in the production of launderable woolen fabrics that will retain a smooth surface.



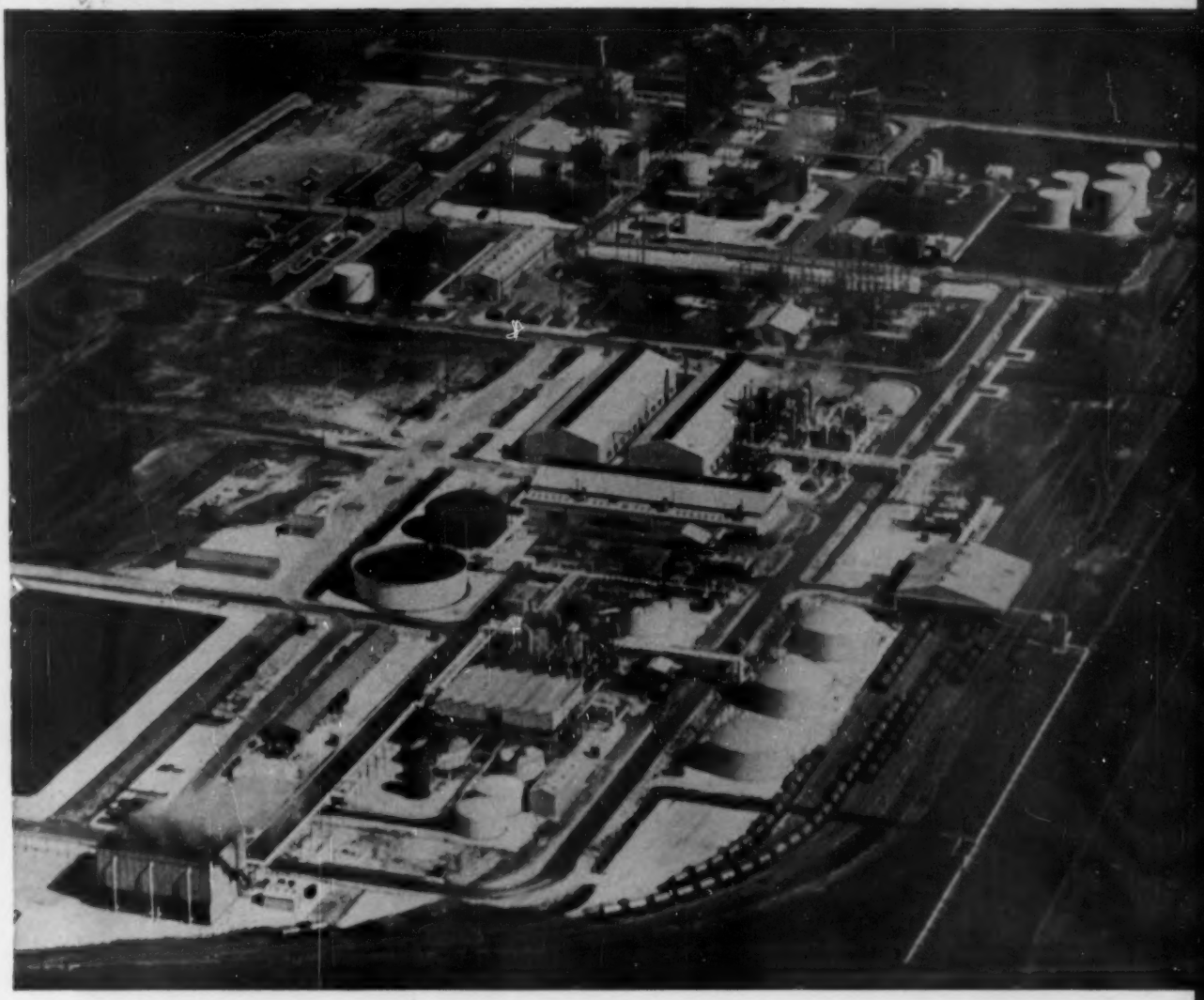
Something

Wyandotte's decision to produce chlorine and caustic in the South, as well as in the North, is proving its worth to a growing number of users of these two key chemicals. Can you benefit?

May we direct your attention to the map at the left? It illustrates an important point about our two chlorine-caustic plants. *Both are on major waterways.*

At Geismar, in the South, we are on the Mississippi . . . and close to the Gulf. At Wyandotte, in the North, we have direct access to the Great Lakes and the St. Lawrence Seaway.

Add to this the fact that railways and highways also go out from these two plants to four-fifths of the



Aerial view shows Wyandotte's new, modern Geismar Works immediately south of Baton Rouge, Louisiana. The chlorine-caustic facility is in the foreground. Ethylene oxide and ethylene glycol facilities are in the background.

ventured . . . something gained

productive capacity of the U. S. and Canada, and you see quite readily why more and more users of chlorine and caustic are taking advantage of our ability to ship economically and with dispatch . . . by barge or ocean tanker, truck or tank car. Can you benefit? We'd like to discuss the possibilities with you. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS MICHIGAN ALKALI DIVISION

Pacing progress with creative chemistry®

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA • CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE • MURIATIC ACID • HYDROGEN • DRY ICE GLYCOLS • SYNTHETIC DETERGENTS • SODIUM CMC • ETHYLENE OXIDE • ETHYLENE DICHLORIDE • POLYETHYLENE GLYCOLS • PROPYLENE OXIDE PROPYLENE DICHLORIDE • POLYPROPYLENE GLYCOLS • DICHLORODIMETHYLHYDANTOIN • CHLORINATED SOLVENTS • OTHER ORGANIC AND INORGANIC CHEMICALS

CIRCLE 83 ON READER SERVICE CARD

*Everglaze is a trademark signifying fabric processed and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons Co.

What keeps *Miss America's* gown so fresh and lovely?

It simply wouldn't do for Miss America—Lynda Lee Mead, Natchez, Mississippi—to look less than her loveliest, ever. That's why millions of Americans will see her on tour this year as you see her here . . . in a care-free, crisp and crush-resistant *Everglaze gown treated with Rohm & Haas RHONITE resin. And Miss America's gown will keep its attractiveness through laundering after laundering, because RHONITE resins penetrate and react inside the textile fibers.

Rohm & Haas will be glad to furnish you with technical information on using the wide selection of RHONITE resins for wash-wear finishes, calendered effects, textures and lasting dimensional stability in cottons, rayons and blends. Why not write, today?

RHONITE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

RHONITE

A TEXTILE WORLD Refresher

Preparation and Bleaching—

10. The Newer Formulations

- Nonsilicate bleaching
- The calcium-phosphate process
- Combinations of chlorine and peroxide
- Chlorite-hypochlorite formulas
- How to check results

By PROF. KENNETH S. CAMPBELL, Dept. of Textile Chemistry
N. C. State College School of Textiles

NONSILICATE BLEACHES eliminate abrasion of the fabric caused by an insoluble silicate deposit or scale built up on the inside surface of the J-box, a common fault in silicate formulations. Silicate deposits lead to faulty dyeing because the abraded areas absorb dye differently and reflect light differently from the unaffected portions. Silicate in bleach-liquor components is removed from fabric with some difficulty; so a clean fabric may be obtained with less rinsing after bleaching when no silicates are used.

In some cases, complex silicates left on the cloth can also be a source of dyeing defects. Furthermore, the lower pH of nonsilicate bleaching formulations is much easier on metallic-effect threads when they occur in the pattern; and trouble from this source may thus be avoided.

Tetrasodium pyrophosphate replaced sodium silicate in wool bleaching many years ago; and where it is used with magnesium sulfate it has been employed successfully in batch bleaching of cotton but not in continuous methods. However, sodium tripolyphosphate with magnesium sulfate has been reported to have been successful as a stabilizer in large-scale plant trials.

Phosphates Cut Scale Problem

Another method that has been in plant use for lightweight colored-yarn fabrics for some time uses calcium phosphate as the stabilizer. The calcium phosphate, which is practically insoluble in water, is obtained by adding to the bleach bath disodium phosphate, brought to a pH of about 9.6 with sodium hydroxide, and buffered with borax. The cotton and the water ordinarily contain enough calcium to form the required amount of calcium phosphate; if water of zero hardness is being used small amounts of calcium chloride may be added to supply the calcium.

Somewhere between 0.3 and 1.0 of NA_2HPO_4 is necessary to supply phosphate and the necessary alkali. It is obvious that the finely divided precipitate of calcium phosphate that forms is responsible for the stabilizing action because if it is filtered out, the peroxide decomposes much too fast.

Apparently it is calcium and magnesium silicates that do the stabilizing in ordinary silicate-bleach formulas. Unlike these, calcium phosphate does not form a hard scale that may require a shutdown at frequent intervals to remove it.

Unfortunately, both of these phosphate stabilizing systems are more expensive than the silicate system by an amount ranging from 60¢ to $1 per thousand pounds of cloth. The additional cost must balance favorably against cost of the shutdowns and poor cloth to justify the use of a nonsilicate process.

An additional disadvantage is that fluidity values are definitely higher with the latter method. So far, at least, the process is confined to a two-step scour and bleach operation.

Combination Methods Described

Another development, currently advocated for continuous bleaching, is a combination hypochlorite-peroxide bleach. In this method, the fabric is given a caustic purification, washed, and then prebleached in hypochlorite in a small J-box or a scray. It is led immediately, without washing, into the usual peroxide saturation and steaming equipment.

The amount of hypochlorite used varies between one and four grams per liter available chlorine. Goods are held 10 to 20 mins. at room temperature in the small J-box before entering the hydrogen-peroxide saturator, which

This 10-part Refresher is being reprinted in booklets. Copies will be available in about two weeks. Prices: 1 to 15 copies, $1.25 each; 16 to 30 copies, $1 each; over 30 copies, 75¢ each.

HARSHAW UVERSOFT "D"

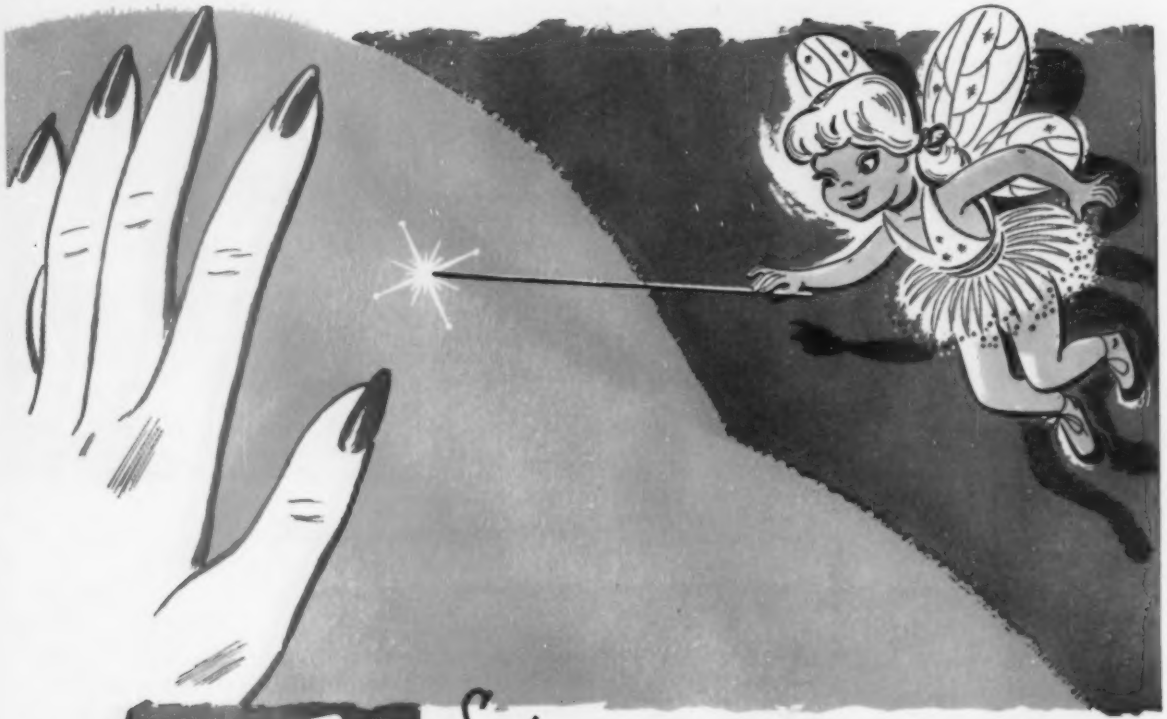
imparts soft hand with little reduction in moisture absorbency

● UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

THE HARSHAW CHEMICAL COMPANY ● 1945 East 97th St., Cleveland 6, Ohio



Send me TECHNICAL BULLETIN ON UVERSOFT "D"

My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

contains a concentration of peroxide and additives about one-third less than in the all-peroxide method. The time in the peroxide J-box is also reduced. In addition to lower chemical costs, the need for softened water is minimized, and the over-all quality of the bleached goods is claimed to be somewhat improved.

The cost of extra equipment in addition to that usually used for continuous peroxide processing is estimated at $20,000. It is evident that this development, in comparison with the single-stage peroxide system, approaches the problem of cost from an opposite direction because it uses more equipment, and presumably labor, to cut down chemical costs.

Chlorite-Hypochlorite Combinations

Sodium chlorite combined with sodium hypochlorite for bleaching cotton was introduced some years ago and has seen limited commercial use. The combination is not used as yet in any truly continuous systems, but a method similar to the pad-roll system has been developed that gives essentially continuous production.

The ratio of hypochlorite to sodium chlorite recommended is 1.5 to 1 to 3 to 1. When the larger amounts of hypochlorite are necessary for adequate bleaching, the protective effect of the chlorite is less; when larger amounts of hypochlorite are used, costs are lower. It is necessary to carry out the process at a pH carefully controlled between 8.8 and 9.9 by a sodium carbonate-bicarbonate buffer mixture.

The bleaching solution must consist principally of NaOCl with only a small amount of ClO_2 formed. If all of the ClO_2 from the chlorite were to be utilized for bleaching, the ratio of hypochlorite to chlorite should be about 1:4, allowing for the available-chlorine content. The reaction is as follows:

$$2NaClO_2 + NaClO + H_2O \rightarrow 2ClO_2 + NaCl + 2NaOH$$

How Bleaching Is Checked

The efficiency of the bleaching process is checked by determining the whiteness of the fabric, its absorbency, and its fluidity. The latter properly is an indication of the extent of damage done to the cellulose by the bleaching process.

Whiteness can be checked by measuring the reflectance of a blue light directed at the bleached sample. The Hunter Multipurpose Reflectometer is commonly used for this purpose. Light passed through a blue filter in the instrument is measured photoelectrically and compared to the light reflected from a block of magnesium oxide, which is rated at 100.

The values determined by this method are generally satisfactory; but a composite figure derived from measurements taken through all three filters on the instrument is a more-precise method of measuring total whiteness because the latter is a function of the wave lengths of the entire visible spectrum.

The instrument will detect differences in whiteness not visible to the eye. A Hunter reflectance value of 87 to 88 is considered to represent satisfactory bleaching.

Initial whiteness is important, but retention of whiteness is also important. Tests of whiteness retention are often run after the goods have been stored under varying conditions for different lengths of time. Exposure to saturated steam at 15 psi. will accelerate any tendency of the goods to turn yellow.

Fluidity Test Checks Strength

Bleached cotton can be checked for chemical change and loss of strength by dissolving a weighted sample in a known quantity of cuprammonium hydroxide or cupri-ethylenediamine.

The rate of flow of the solution through a calibrated orifice is expressed in rhes, which are the reciprocal of the unit of viscosity.

A fluidity between 5 and 10 rhes is considered normal for bleached cotton. Values of 4 to 6 are the most desirable; lower values indicate insufficient preparation, and such samples are apt to be lacking in absorbency. Higher values suggest overbleaching; and if the fluidity is over 10, something is most certainly wrong with processing.

The complete procedure for the determination of fluidity can be found in ASTM Standards on Textile Materials (1952) Part 5, pp. 187 to 194.

Good Absorbency Is Needed

To the dyer, printer, and finisher, good absorbency is equally as important as whiteness. The simple AATCC test consists of allowing a drop of water to fall from a fixed distance onto the sample, which is mounted in an embroidery hoop. If the drop of water is absorbed by the fabric within 5 secs., absorbency is considered to be satisfactory. Other methods that can be used include measuring the time required for a sample to sink in water or measuring the height of water raised by capillary action in a strip suspended over and touching a beaker of water.

What Chemical Analysis Shows

The amount of impurities left behind by the bleaching process is a good criterion of the extent of bleaching.

Bleached samples may be extracted with carbon tetrachloride to determine oil, fat, and wax residues, which should not exceed 0.35% of sample weight. A desizing process will remove any other nonfibrous residues. The total loss from extraction by both solvent and aqueous treatments should not exceed 0.50%.

The ash content of bleached cotton is commonly accepted as a measure of bleaching efficiency. However, an acid scour without any bleaching will reduce ash values to an acceptable level. Goods that have been scoured with caustic and bleached with chemic or peroxide should have an ash content of 0.20 to 0.25%.

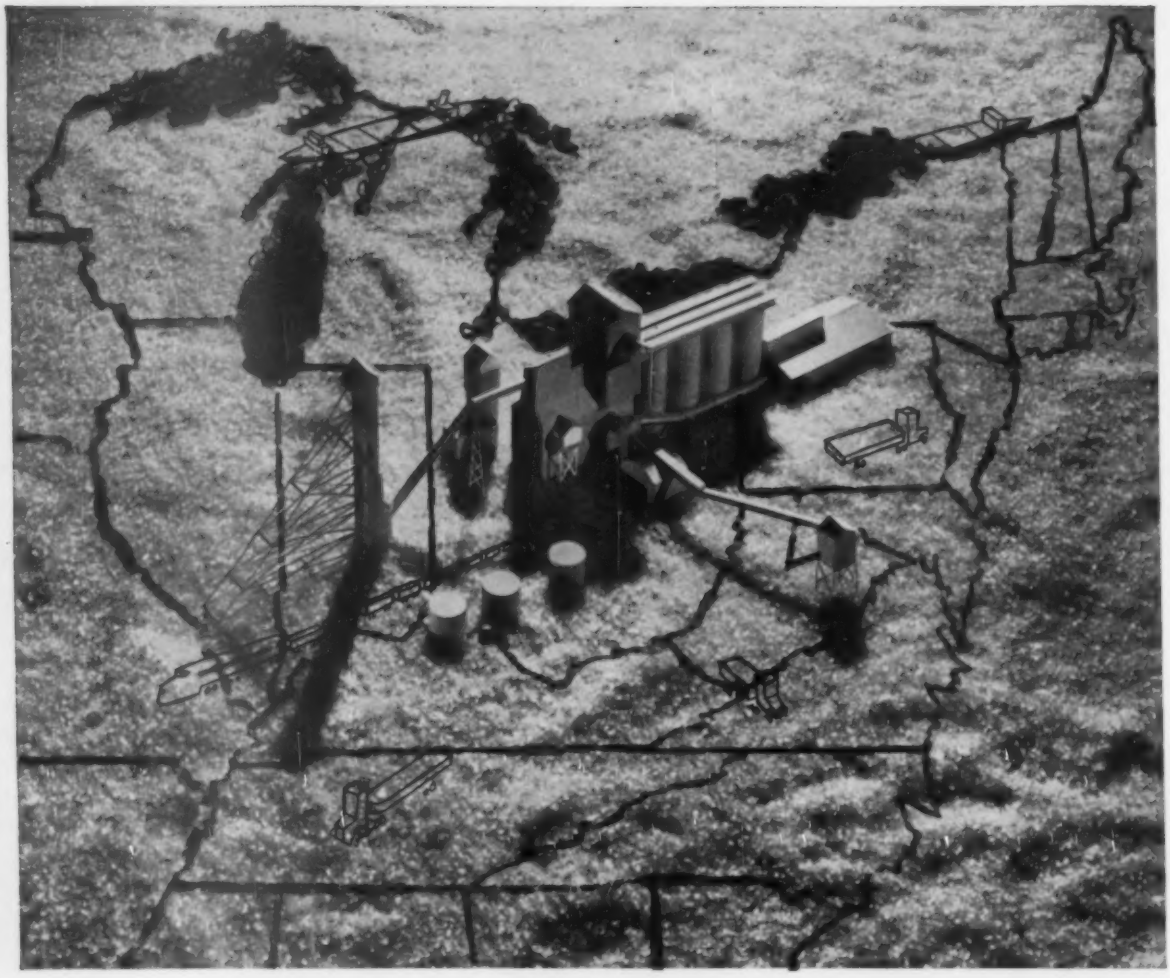
Colored Fly Causes Trouble

White goods often show small pink or blue spots after bleaching that were not visible in the gray goods.

In most cases, these spots are caused by fly from colored fabrics woven or knitted in the same room or colored lint that has been picked up in the singeing area. Other sources include stray colored scraps that may have been included in bagging goods or even during the baling of the cotton.

Such spots are often difficult to remove if the contaminating fiber was vat dyed. Sometimes a caustic-and-hydro treatment will remove the spots, but rarely so if they have a vat-dye source. Some plants use a weak preliminary chlorine bleach prior to the usual peroxide bleach. It is better to kill the color, if it is suspected, before going through a normal kier-and-chemic routine or even a continuous peroxide system.

Another aftertreatment for this trouble is to pad the goods in a 2½-grams-per-liter solution of potassium permanganate and let them lie for 1 hr. They should then be washed out in sodium bisulfite and rinsed.



Morton's Fairport mine offers the textile industry a new, domestic source of rock salt

Located 29 miles east of Cleveland on Lake Erie, Morton's new Fairport Mine offers a convenient new source of rock salt for textile uses. This new mine can deliver rock salt by boat, truck and rail, whichever way is the fastest, most economical way to serve you.

The new Fairport Mine is but one of Morton's four strategically located American sources of rock salt that assure Morton customers prompt, dependable delivery regardless of mill size or location.

Salt and service for every need

In addition to rock salt, Morton produces several high purity grades of evaporated salt for dyeing operations. Morton Chemical Grade '999', for instance, is recommended whenever commercial calcium free salt is required. As the only nationwide salt company, Morton can supply the kind of salt and service you require.

MAIL COUPON TODAY!

☐ Please have a Morton representative contact me about Morton's Rock Salt Service.

☐ I also would like additional information about Chemical Grade '999.'

Name _____
(Please Print)

Title _____

Company _____

Address _____

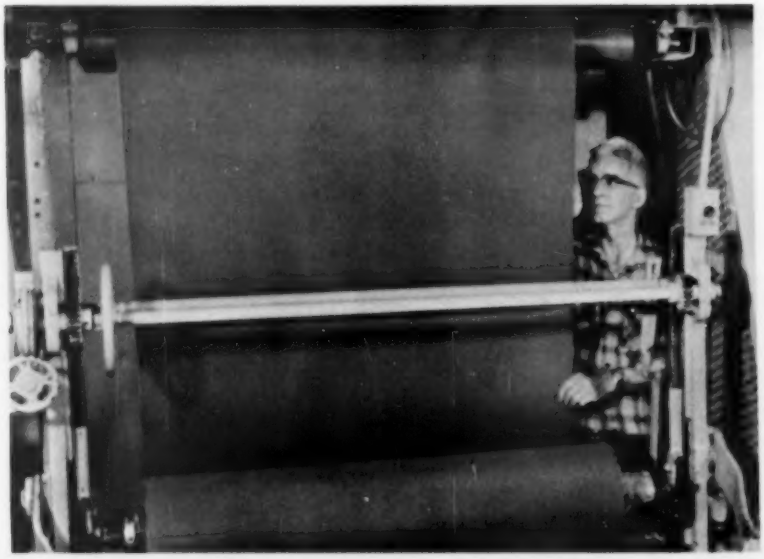
City _____ *Zone* _____ *State* _____

MORTON SALT COMPANY

INDUSTRIAL DIVISION

Dept. **TW-3** *110 N. Wacker Drive, Chicago 6, Ill.*

POLYESTER/COTTON BLENDS NOW DYED AT RECORD SPEEDS BY THERMOSOL PROCESS



In this New England finishing plant, the Thermosol process is now in its fifth consecutive year of use. Blend fabrics of 65% "Dacron"*/35% cotton are here being padded with "Latyl"* disperse dyes. Drying and heat-setting will follow.

For some time, the textile industry has been facing a welcome production problem: how to weave and dye polyester/cotton blends fast enough to meet the skyrocketing demand. Some plants have already solved the problem by adopting the Du Pont Thermosol process—a solid solution process which dissolves disperse dyes in solid polyester fibers through heat.

Completely continuous, it permits processing speeds up to 100 yards per minute. Efficiency in use of dye is also high, running to between 75% and 95% of the amount padded on. Moreover, the Thermosol process gives shades of good brightness, good fastness and satisfactory levelness.

Three Simple Steps

Fabrics are first padded in the dye, then quickly dried at 250-300° F., and heat-set in a roller-type oven at 425° F. This heat treatment causes the dye to penetrate and become fixed inside the fiber at the same time.

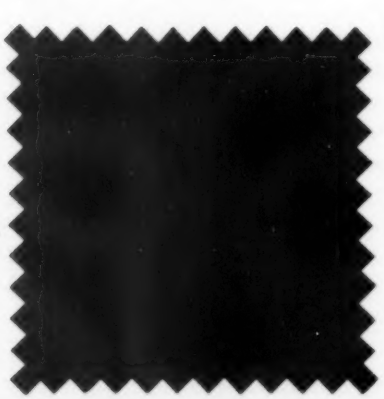
Choice of Dyeing Procedures

Disperse dyes such as the "Latyl" group are always applied to the "Dacron" or other polyester component. The cotton fibers may be provided for in various ways.

(continued on other side)

news from Du Pont

NEW "LATYL" BLUE GIVES QUALITY DYEINGS AT LOW COST



"Latyl" Blue BCN now brings to eight the number of "Latyl" disperse blues available for blends of "Dacron" (or other polyester fiber) with cotton or wool.

This newest dye is a bright, neutral blue with good all-around fastness. However, it is most outstanding for its economy, its excellent leveling properties, and its ease of application.

The economy is particularly apparent when "Latyl" Blue BCN is used as a base in navy and black shades. Excellent processing characteristics also make it a logical candidate for light to medium shades of tan, gray, blue and other colors. There is only slight staining of cotton fibers. While wool staining is considerable, the stain is on tone.

"Latyl" Blue BCN also offers advantages in the dyeing of acrylic and other synthetic fibers. For complete data and application suggestions, get in touch with a Du Pont dyeing specialist at our nearest office.

FASTNESS PROPERTIES

Spun "Dacron" (Carrier Dyed)

TEST	RATING OR RESULT
Light (Fade-Ometer)	
0.5% heat treated	40 to 80 hours
2.0% heat treated	40 to 80 hours
Crocking (dry or wet)	Negligible to slight staining
Perspiration (acid or alkaline)	Negligible change
Sublimation (dry steam, 20 min.)	Negligible to slight
Washing (A.A.T.C.C. No. 3)	Negligible change
Washing (A.A.T.C.C No. 3A)	Negligible to slight change

*Reg. U. S. Pat. Off.

THERMOSOL PROCESS FOR POLYESTER/COTTON BLENDS

(continued from other side)

1. Disperse dyes and vat dyes.

After the polyester fiber is dyed, the cotton is vat-dyed to match.

2. Disperse dyes alone.

In a 65%/35% blend, dyeing of the polyester component gives a virtually solid appearance in light to medium shades.

"Latyl"* Dyes Contribute Quality

With "Latyl" disperse dyes, the Thermosol process gives shades marked by brightness, levelness, good strength, good wetfastness and excellent lightfastness. In addition, they have the necessary resistance to vat-dye reduction and to sublimation at high temperature.

To find out more about it, simply get in touch with a Du Pont dyeing specialist at a nearby sales office.

From this Rumford, R. I., warehouse, Du Pont dyes and chemicals for the textile industry are speedily delivered throughout the New England area. The warehouse is typical of the many facilities maintained throughout the nation for faster and better customer service.

news from Du Pont

"ZELAN"* PROMOTION FOR SPRING APPEARS EARLY SUCCESS

A promotion campaign designed to promote sales and consumer advantages of garments treated with Du Pont "Zelan" is in full swing now in hundreds of retail stores coast to coast.

Aimed at all segments of the rainwear market, from cutter through merchandising outlets to the consumer, the promotion is the biggest ever directed toward the use of a textile treating chemical.

Twenty leading cutters have supplied 38 garments which have been featured in consumer advertisements pointing up the latest Spring 1960 outerwear and rainwear.

Kickoff of the promotion occurred on March 5, when outerwear made of fabrics treated with "Zelan" was featured in a 3-minute announcement on the Du Pont "Show of the Month." An estimated 35,000,000 viewers watched the show on a network of over 200 stations.

Immediately following the show, 20-second spot announcements in 13 markets showed still more styles and directed consumers to key local stores.

An 8-page ad featuring ZELAN SHOWCASE OF SHOWERWEAR garments appeared on Sunday, March 6, in the *New York Times Magazine*, followed by a full-page ad in *Sports Illustrated* on March 14.

The cutters featured in the ZELAN SHOWCASE OF SHOWERWEAR, and many others not featured, have made elaborate tie-in plans with hundreds of retail stores to make the ZELAN SHOWCASE OF SHOWERWEAR for Spring the most successful outerwear promotion in history.

From early indications, the ZELAN SHOWCASE OF SHOWERWEAR for Spring is an unqualified success. Plans are already under way for a follow-up ZELAN SHOWCASE promotion package for Fall 1960.

DU PONT
REG. U. S. PAT. OFF.

DYES AND CHEMICALS

Better Things for Better Living
. . . through Chemistry

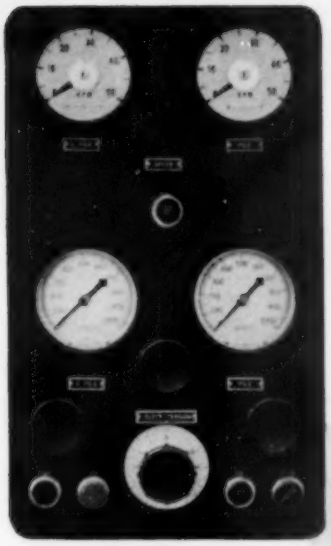
E. I. du Pont de Nemours & Co. (Inc.)
Organic Chemicals Department
Dyes and Chemicals Division
Wilmington 98, Delaware

SALES OFFICES:

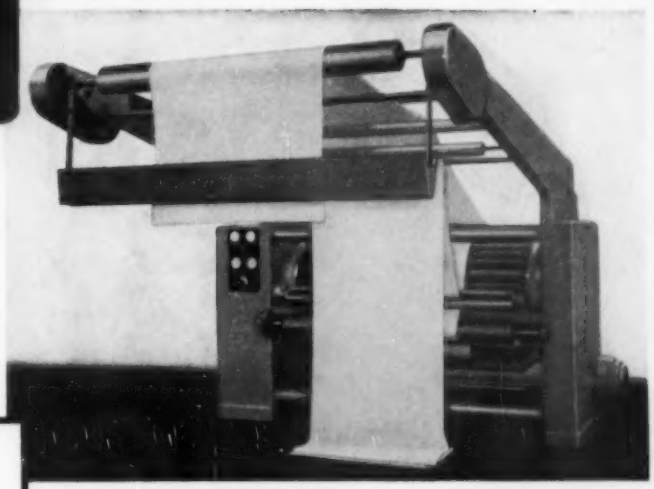
ATLANTA, GA., 1261 Spring St. N. W.
CHARLOTTE, 2, N. C., 427 West Fourth St.
CHICAGO 3, ILLINOIS, 7 S. Dearborn St.
LOS ANGELES 58, CALIF., 2930 East 44th St.
NEW YORK 13, N. Y., 40 Worth St.
PHILADELPHIA 3, PA., 1616 Walnut St.
RUMFORD 16, R. I., 50 North Broadway
PORTLAND, ORE., 1238 N. W. Glisan St.

*Reg. U. S. Pat. Off.

Pressure Controlled Napping

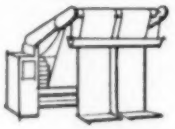


The entire story of the complete napping operation is registered on this single panel.

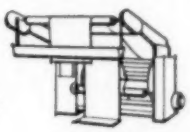


24 Roll Double Acting Hi-Torc Napper

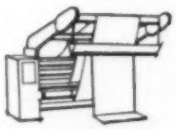
There are only five places in the world where you'll find this pressure control, and that is on each of the five Gessner Hi-Torc Nappers.



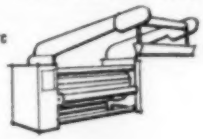
30 Roll Double Acting Hi-Torc



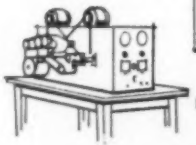
24 Roll Double Acting Hi-Torc



24 Roll Single Acting Hi-Torc



24 Roll Knit Goods Hi-Torc



Laboratory Hi-Torc

Something new? Yes, for those who have yet to avail themselves of Gessner's napping control with positive pressure. By the simple means of pressure, a constant that stays that way at all times, the entire cycle of napping is rigidly controlled — the progress of the cloth, the napping energy, the rotation of the rolls, everything. The operator alone can change it and right at the control panel.

Once the desired amount of pressure is determined, that same pressure may be re-established — anytime. Fabrics to be napped at 100 pounds pressure will always receive the same nap, unaffected by belt slippage, or change in the diameter of the worker rolls.

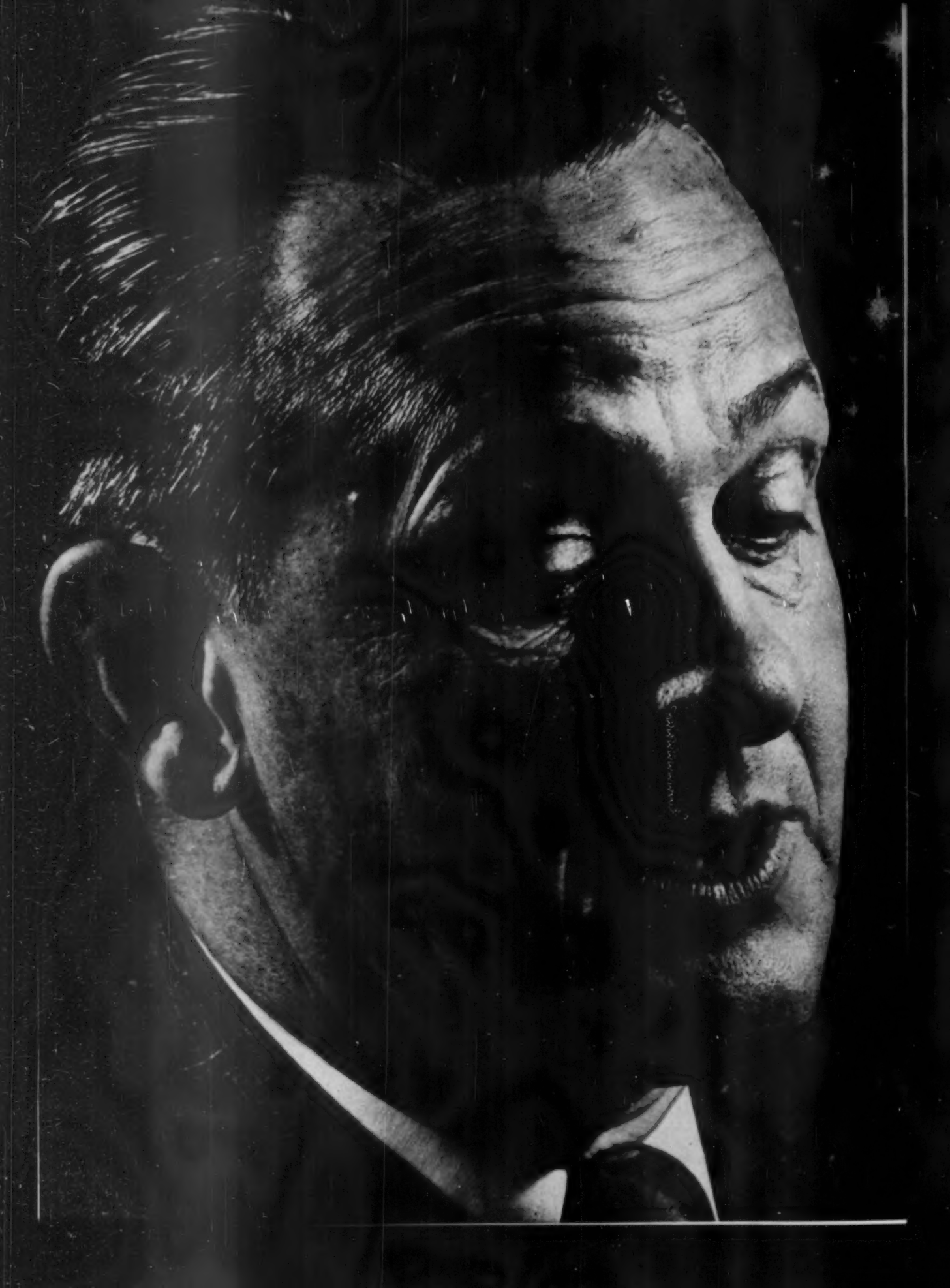
DAVID GESSNER CO.

WORCESTER, MASS.

Southern Representative:
Richard A. Herard,
222 Piedmont Bldg., Greensboro, N. C.

Western Representative:
E. G. Paules & Co.,
1762 West Vernon Ave., Los Angeles, California

Canadian Representative:
W. J. Westaway,
Montreal, Quebec; Hamilton, Ontario



Jim Weaver, who supervised construction of new type chlorine and caustic soda tank cars, says you'll like doing business with Columbia-Southern

Jim Weaver and other members of Columbia-Southern's Traffic Department have pioneered a long list of improvements in the safe and economical shipping of chemicals. The company's new fleet of tank barges incorporates many special features designed for more efficient handling of bulk quantities. Columbia-Southern's liquid caustic tank cars were the first to use a special lining that permits delivery of high concentration caustic—free from metallic pickup. Also, Columbia-Southern developed the use of the dome safety platform on tank cars, as an effective safeguard against accidents during loading and unloading.

This *customer-oriented* attitude is common to all Columbia-Southern activities. For example, Columbia-Southern caustic soda is available in a variety of forms and grades, providing each customer with the particular caustic best suited for his facilities and needs. Customers can choose from solid, flake (in fine or medium particle size), or liquid (in 50% or 73% concentration). In addition, there's a highly purified grade of liquid caustic, for special uses such as rayon manufacture. And your Columbia-Southern Technical Service Representative is always available for professional consultation on the proper application of these various forms of caustic soda.

Buyers of chemicals in every industry like this thoroughness, because it adds up to extra profits for them. You'll find that it will for you, too.

Anhydrous Ammonia, Barium Chemicals, Benzene Hexachloride, Calcium Chloride, Calcium Hypochlorite (Pittchlor®, Pittabs®), Carbon Tetrachloride, Caustic Potash, Caustic Soda, Chlorine, Chlorinated Benzenes, Chloro IPC, Chrome Chemicals, Hydrogen Peroxide, Muriatic Acid, Pacific Crystals, Perchlorethylene, Rubber Pigments (Calcene®, Hi-Sil®, Silene®), Soda Ash, Sodium Bicarbonate, Sodium Sulfate, Titanium Tetrachloride, Trichlorethylene

columbia southern

CHEMICAL CORPORATION

A Subsidiary of Pittsburgh Plate Glass Company • One Gateway Center, Pittsburgh 22, Pa.

A JACQUES WOLF Chemical for every processing need!

For any stage of textile processing, Jacques Wolf & Co. has a complete line of chemicals and specialties. Whatever your particular problem, we shall welcome the opportunity of submitting samples custom-formulated to meet your needs. Write for our catalog.

HYDROSULFITES

HYDROSULFITE AWC—($NaHSO_2CH_2O.2H_2O$)
For stripping and discharge printing.

HYDROSULFITE OF SODA—(Conc.) ($Na_2S_2O_4$)
For reduction of vat colors. Non-Dusting.

HYDROSULFITE B Z—($Zn(OH)HSO_2CH_2O$)
For stripping wool stock, shoddy, rags.

HYDROZIN*—($Zn(HSO_2CH_2O)_2$)
For stripping acetate dyes and discharge printing on acetate dyed grounds.

HYDROSULFITE QD—For rapid dissolving in continuous vat dyeing.

DE-SIZING

AMPROZYME*—For liquefaction of starches and proteins in de-sizing textiles.

DIASTAZYME*—Used as an economical de-sizing agent for starch-sized textiles.

SCOURING

ORATOL L-48*—A synthetic detergent with excellent penetrating and emulsifying properties.

BENSAPOL—A liquid detergent derived from Monopole Oil particularly useful for scouring wool.

LOUPOLE W-950—A penetrating detergent for use in scouring or boiling off.

PARNOL—Sodium Dodecyl Benzene Sulphonate.

SELLOGEN GEL — A synthetic detergent used also in dyeing and as a wetting agent for all natural and synthetic fibre.

DETERGENT W-1750A—Has anionic and non-ionic properties; excellent for scouring nylon and dacron to remove throwster sizings; penetrates and lifts graphite streaks.

DYEING

WETSIT CONC.*—A synthetic aromatic compound for wetting out in both the dyeing and scouring operations.

WETSIT NI—100% non-ionic wetting agent.

MONOPOLE OIL*—A highly concentrated, double sulphonated castor oil for a wide range of operations.

APASOL*—Particularly effective in the dispersion of acetate printing colors. A sulphonated ester with a high combined SO_2.

LOMAR PW*—Dispersing agent for pad dyed vat colors; also retardant in the dyebath.

SULPHONATED OILS—Castor, Cod, Sperm, Olive, Neatsfoot, Pine, Red, Teaseed, etc.

FINISHING

ACETATE OF ALUMINA—Water-clear solution, sulphate and iron free; used for waterproofing.

ALUMINUM FORMATE — For waterproofing; clear, water-white, stable; sulphate, chloride and iron free.

LUPOSEC—Stable emulsion of mineral waxes with aluminum acetate. For one bath method of waterproofing.

STATLESS—Paste for reducing static on all fibres.

CREAM SOFTENERS—In different strengths and varied degrees of alkalinity for a soft full hand to all types of fabrics.

LUPOMIN*—A series of cationic nitrogen compounds used for softening and finishing textiles.

CHAFE REMOVER W-545-T—A finishing oil for textiles, particularly silk fabrics, to remove chafe marks.

LUXAPOLE W-1054-B—A superior, sulphonated oil for finishing all fine fabrics.

OIL S-261C—A clear, amber oil used as a penetrator and softener for cotton cloth; aids in uniform shrinkage.

SOLUBLE WAX JB—A dispersed vegetable wax for full body and high lustre to cotton goods.

WEIGHTER FINISH M—For heavier body and better hand for all fabrics.

PRINTING

SUPERCLEAR*—Prepared from natural gums as a thickener for printing all types of textiles.

SUPERGUM—A cold-water soluble gum.

PIGMENT WHITES—Dispersed suspension of white pigments with plasticizers for use on light grounds, or white discharge on dyed ground shades.

ACETATE OF CHROME—As a mordant in dyeing and printing mordant colors. Also for dyeing mineral shades.

TRAGACANTH—Gum solutions in various concentrations for extra clear, sharp prints when used with acid, direct or insoluble Azo dyestuffs.

OTHER SPECIALTIES

Mordants
Defoamers
Sizes
Delustres
Penetrants
Weighting Finish
Gums—Arabic, Karaya and Tragacanth
Fiber Lubricants
Thickeners
Wool Oils
Sulphonated Oils (Various Bases)

JACQUES WOLF & CO. Chemicals PASSAIC, N. J.

*Reg. U.S. Pat. Off.

Franklin-Dyed Yarns

THE ANSWER TO FASHION'S INSATIABLE DEMANDS

417-9

Fashion is synonymous with change and variety. Franklin Dyed Yarns facilitate both of these elements. They are obtainable in a comparatively short time in *custom dyed* colors — processed to *your individual* specifications. Franklin Dyed Yarns are used by many fashion leaders, because:—

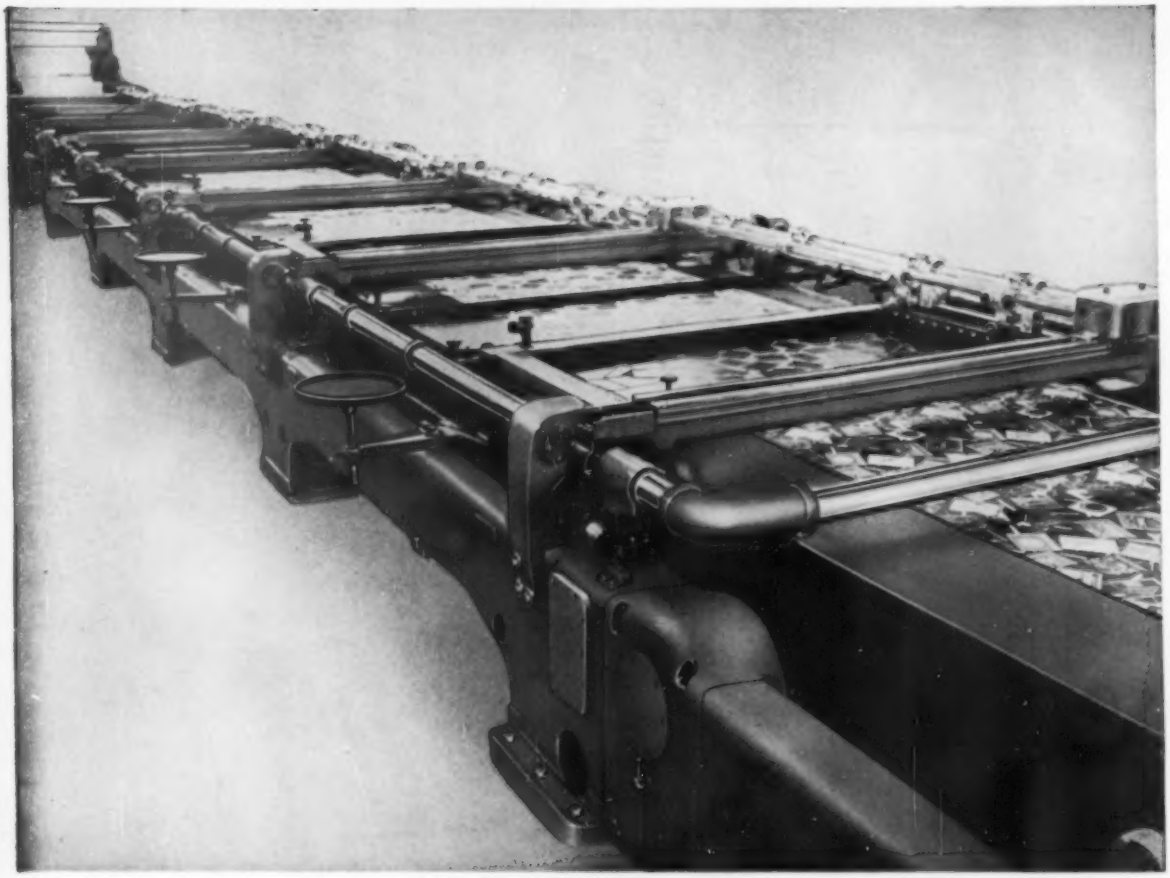
1. With the largest package dyeing capacity in the world and 4 plants, Franklin is a highly dependable source of supply.
2. The Franklin Compressible Spring assures uniform density of packages and hence uniform shades.
3. Franklin's unequalled laboratory facilities and half a century of experience assure strict quality control and the know-how to cope with difficult dyeing problems.

Get in touch with our nearest plant or office and let us quote on your yarn dyeing requirements.

Franklin Process
COMPANY
A DIVISION OF INDIAN HEAD MILLS, INC.

LARGEST PACKAGE DYERS IN THE WORLD

Dyers of natural and synthetic yarns on Franklin compressible spring exclusively.
PHILADELPHIA • GREENVILLE • CHATTANOOGA • FINGERVILLE, S. C.
New York Office . . 111 West 40th Street Providence Office . . 611 Turks Head Building



Screen Print up to 12 yds. of Fabric Per Minute with an **ICHINOSE-TYPE** Patented MULTI-COLOR AUTOMATIC SCREEN PRINTING MACHINE

The Ichinose Screen Printing Machine, with more than 60 patented features, screen prints all kinds of fabric perfectly in up to 21 colors at nearly double the speed of other machines on the market. Finished prints are of highest quality, clean, sharp, accurate and far superior to hand or roller prints.

Ichinose means greater economy, too, both in initial cost and in operation and maintenance. It consumes less power, steam, and dye paste, while cutting labor costs to only two operators per machine. Change of design and colors takes less than 30 minutes.

Machines with various different repeats up to 72" and fabric widths up to 60" can be supplied.

To ensure complete satisfaction, all Ichinose machines are installed by our own technicians anywhere in the world. Write today to Dept. TW8 for illustrated catalogue and printed fabric samples.

TOSHIN KOGYO CO., LTD.

P. O. Box 367, Osaka Central
OSAKA, JAPAN
(Cable: Autoscreen Amagasaki)

North American Representative:
Edward S. Rudnick, Representatives
Olympia Building, P.O. Box 244
New Bedford, Mass.

NEW! FROM GDC
INDANTHRENE
MAROON BROWN B
INFRA PASTE

distinctively different—a unique advance in vat dye chemistry for self and fashion shades

Developed in the laboratories of GDC, Indanthrene Maroon Brown B Infra Paste represents the most important advance in vat dye chemistry in recent years. Although not an anthraquinone or indigo type, this new GDC dyestuff offers all the desirable qualities of a vat dye with greater economy and a distinctive maroon brown shade unequaled by any other manufactured dyestuff.

gdc
gaf

more than a laboratory development–
an important advance in vat dyeing!

INDANTHRENE®
MAROON BROWN B INFRA PASTE

...An original development in vat dye chemistry...A timely fast brown shade that is otherwise unobtainable with a "straight" dye...All the well-known fine qualities of vat dyes, with unsurpassed leveling properties and economy–for the prestige dyeing and printing of cottons and rayons.

INDANTHRENE MAROON BROWN B INFRA PASTE is a development of more than theoretical interest. It is a significant and very useful addition to the dyehouse inventory for running colorfast, fashion-wise shades. The attractive maroon brown tone dyes with the excellent fastness characteristic of vat colors and with top efficiency in dyehouse production.

INDANTHRENE MAROON BROWN B INFRA PASTE in medium depths of shade exhibits a lightfastness rating of 6. Fastness to AATCC Wash Test #4 is rated at 4-5. Fastness to 0.3% chlorine solution is 3-4.

INDANTHRENE MAROON BROWN B INFRA PASTE provides yet another plus factor in its dependable working properties. Speck-free results are inherent from the high standard of Indanthrene Infra Pastes. The color is extremely level dyeing and well suited for regular vat dyeing procedures on conventional equipment. A special printing type is also available. The dye is a "natural" for indoor and apparel shades on cellulosic materials and blends, offering full satisfaction to mill management and consumer alike.

FROM RESEARCH TO REALITY

gdc gaf

GENERAL DYESTUFF COMPANY
A SALES DIVISION OF
GENERAL ANILINE & FILM CORPORATION
435 HUDSON STREET • NEW YORK 14, NEW YORK
CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK
PHILADELPHIA • PORTLAND, OREGON • PROVIDENCE • SAN FRANCISCO
IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

MEMBER VAT DYE INSTITUTE—INDANTHRENE DYES MANUFACTURED BY GENERAL ANILINE & FILM ARE SOLD OUTSIDE THE UNITED STATES AND CANADA UNDER THE TRADE NAME "FENANTHREN" BY DISTRIBUTORS ALL OVER THE WORLD.

Koppers dyes are right for every fiber

Quality color in modern living is of utmost importance. To achieve consumer-pleasing shades of vibrant, long-lasting color—regardless of individual fiber characteristics—count on dependable Koppers dyes.

From a wide range, you can select the quality dye that will meet the most stringent requirements. Through intensified research programs, Koppers dyes have attained excellent processing characteristics for good build-up, even exhaustion and outstanding leveling properties.

Whatever your dyeing problem, contact your Koppers representative. Our technical service and laboratory facilities are always available. VMA 6408

KOPPERS

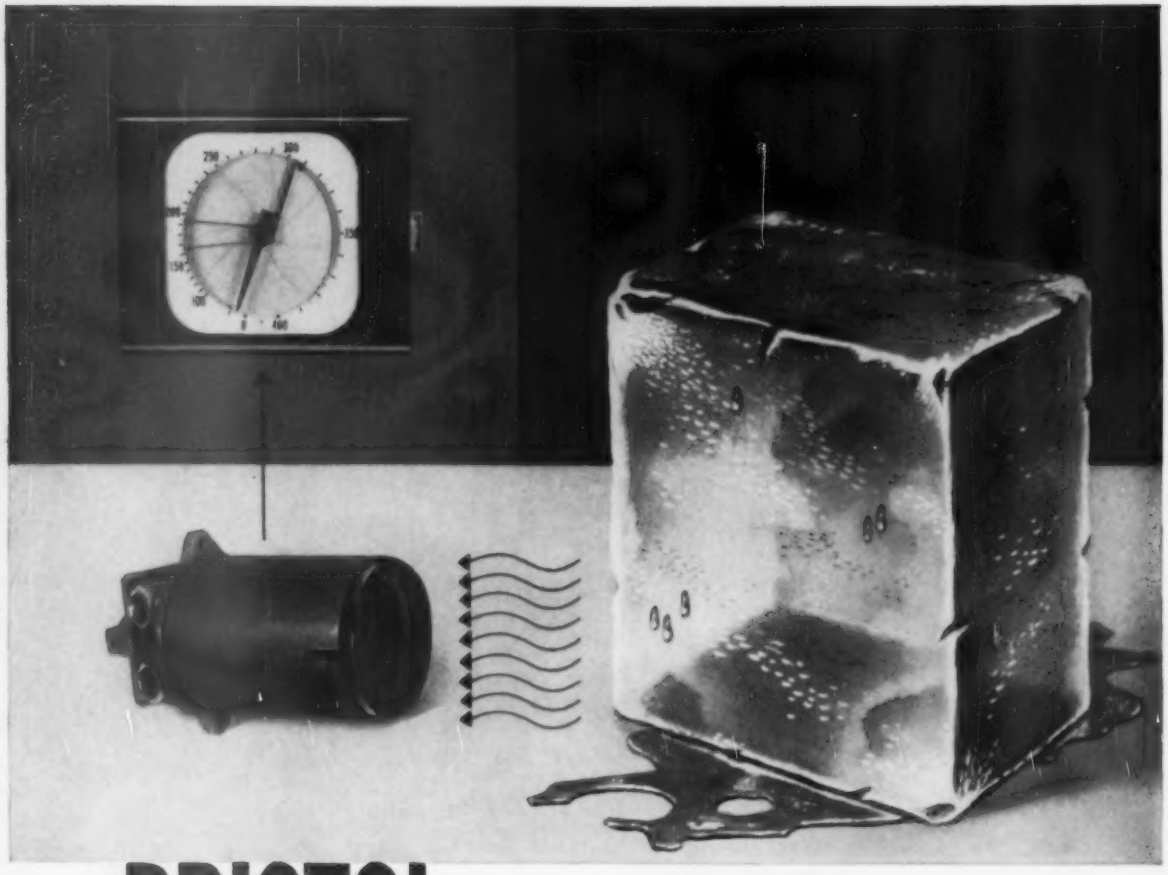
KOPPERS COMPANY, INC. *CHEMICALS AND DYESTUFFS DIVISION*

Pittsburgh 19, Pennsylvania

(FORMERLY AMERICAN ANILINE PRODUCTS) PLANT: Lock Haven, Pa.

BRANCHES: Providence, R. I. • Philadelphia, Pa. • Paterson, N. J. • Chicago, Ill. • Charlotte, N. C. • Chattanooga, Tenn. Columbus, Ga. • Los Angeles, Calif.

IN CANADA: Dominion Anilines & Chemicals, Ltd., Toronto, Canada • Montreal, Canada



new BRISTOL low-range radiation pyrometer

IDEAL FOR NO-CONTACT, CONTINUOUS TEMPERATURE MEASUREMENTS ON

Rubber	Plastics
Synthetic rubber	Carpeting
Tile	Mineral aggregates
Roofing shingles	Chemical flows
Adhesives	Petroleum flows
Blackened or unpolished aluminum	Beverage flows
	Reactor kettles
	Mill rolls
Textiles, synthetic and natural fibres	Furnace or oven charges or exteriors
Paper	Foundry molds

...and many other substances; web processes or products; conveyed, rolled or extruded products; and stationary objects.

0-200° F and other ranges to 1100° F • Direct reading charts, scales in F or C • Calibrated interchangeable head units • Automatic built-in ambient compensation • Easy emissivity compensation

Here's the first radiation pyrometer that really gets down to 0° F.

It's the Bristol Velotron Pyrometer System—so sensitive you can sight the radiation unit (at lower left above) on your hand and get an accurate temperature indication.

And on the high end, spans and ranges are available up to 1100° F or corresponding ranges in degrees Centigrade.

Charts and scales are direct reading, in degrees F or C, even on the lowest ranges. No laborious calibration runs, calculations; no curve consulting needed! And you get famous Bristol Dynamaster® Recorder accuracy —proven in thousands of installations.

Ambient temperature compensation is automatic, completely contained in recorder unit (no third unit needed), and allows use in ambients up to 135° F.

A simple knob adjustment allows compensation for emissivity characteristics of target material from black body on down.

Interconnection cables are standard copper wire; no special, preselected lengths required.

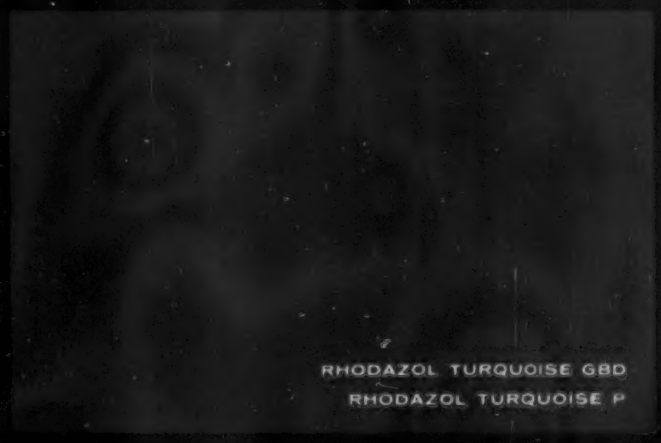
Write for complete technical data on this outstanding new Bristol contribution to industrial pyrometry. The Bristol Company, 103 Bristol Road, Waterbury, Conn. B-31

®T. M. Reg. U. S. Pat. Off.

BRISTOL...for improved production through measurement and control

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

REMAZOL GOLDEN YELLOW Y



RHODAZOL TURQUOISE GBD
RHODAZOL TURQUOISE P

REMAZOL BRILLIANT ORANGE RR

REMAZOL BRILLIANT VIOLET 5R

COMBINATION OF REMAZOL BRILLIANT BLUE R AND RHODAZOL TURQUOISE P

NEW **REMAZOL** DYES,

EXCITINGLY BRILLIANT,

enrich the range of sparkling colors offered by Carbic-Hoechst. Please turn the page for Technical Information on these vinyl sulfon reactive dyes.

CARBIC-HOECHST CORPORATION

451 WASHINGTON STREET, NEW YORK 13, N. Y.

CHARLOTTE • LOS ANGELES • PHILADELPHIA • WEST WARWICK, R. I.

REMAZOL GOLDEN YELLOW Y

- **APPLICATIONS:** Superior for bright yellow, scarlet, brown and green shades either printed or pad dyed on cotton or regenerated cellulose fibers. Ideally suited for dischargeable ground shades. Best yellow for exhaust dyeing on yarn.
- **FASTNESS PROPERTIES:** Excellent fastness to washing and light. Shows a minimum of shade change after resin treatment. Fastness to light is not impaired by resin finishing.

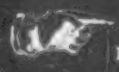
HOECHST

RHODAZOL TURQUOISE GBD
RHODAZOL TURQUOISE P

- **APPLICATIONS:** Developed and produced by Hoechst Chemical Corporation, West Warwick, Rhode Island, these brilliant new dyes can be used in the production of outstanding turquoise shades, also chartreuse, aqua and bright green. Both have excellent dischargeability in the production of dischargeable ground shades.

  RHODAZOL TURQUOISE GBD is designed for continuous dyeing and exhaust dyeing methods on cotton, linen and rayon.

  RHODAZOL TURQUOISE P is designed primarily for printing on cotton.
- **FASTNESS PROPERTIES:** Excellent wet fastness properties.



REMAZOL BRILLIANT ORANGE RR

- **APPLICATIONS:** Versatile red shade of orange suitable for the production of bright orange, scarlet, copper and brown shades of very rich hue. Highly suited for pad-dyeing and can be readily exhausted on packages and skeins. Can be used in combination with Rhodazol Turquoise GBD for the production of readily dischargeable gray and tan shades.
- **FASTNESS PROPERTIES:** Excellent wash fastness and fastness to light.

REMAZOL BRILLIANT VIOLET 5R

- **APPLICATIONS:** A wide range of blue tones extending from brilliant reddish cast blue to bright navy blue shades can be produced with combinations of Remazol Brilliant Violet 5R and Rhodazol Turquoise GBD, all of which are readily dischargeable. This dye works equally well in pad dyeing and exhaust dyeing.
- **FASTNESS PROPERTIES:** Good chlorine fastness and excellent light fastness even in pale shades. Excellent wash fastness.

COMBINATION OF REMAZOL BRILLIANT BLUE R AND RHODAZOL TURQUOISE GBD

The combination of these two dyestuffs brings to the industry for the first time a wide range of royal blue shades of outstanding brilliance obtained economically on yarn at 140° F. Comparable shades of supreme brightness can be printed and pad dyed.

NEW REMAZOL DYES

Great opportunities for bright shades, fast to washing, now exist not only for cellulosic fibers but also for dyeing wool, silk, nylon and some acrylic fibers with REMAZOL and RHODAZOL dyestuffs. Consult our Technical Service Laboratory for assistance on the uses and applications of these new colors. A call or letter will bring an immediate response.

CARBIC-HOECHST CORPORATION

451 WASHINGTON STREET, NEW YORK 13, N. Y. Tel. WAlker 5-4464

CHARLOTTE • LOS ANGELES • PHILADELPHIA • WEST WARWICK, R. I.

The Chemistry and Application Of Rug-Backing Compounds—II

Backing compounds—

- What determines the formula
- How compounds are made
- Principal application methods
- How various qualities are obtained

By GEORGE BRAWNER

BACKING COMPOUNDS are formulated to meet a specific end use, which may determine one ingredient or all. The end use may also determine the viscosity of the compound and the curing method. Laboratory tests usually precede any large-scale runs in the plant.

Other factors that have to be considered are certain qualities of hand, such as flexibility, resilience, hardness, weight, surface appearance, and skid resistance.

In addition, the backing must adhere well to its substrate and be resistant to discoloration or degradation during application, curing, or any necessary aftertreatments. Finally, the cost must be in line with expected returns for the processing and/or the finished product.

Cost will be determined largely by the selection of latex. All other properties must be considered when this selection is made, for often only a certain type of latex will give the desired properties. A balance must be struck between desired properties and amount of loading or filler that can be used to lower the cost.

The compounder, either through experience or evaluations, reaches this balance with a particular latex and uses it as the base of the compound that includes fillers, accelerators, and extenders.

How Backings Are Put Together

Backing compounds are usually made up to carry 72 to 75% of total solids. Fillers such as clay or whiting must be thoroughly dispersed in the mixture, and the dispersing agent must be compatible with the latex dispersion that binds the whole together.

If the total solids content is stretched to 80 to 85%, there is a good chance that all particles will not be completely dispersed, and often the viscosity of the mix will be too high for practical purposes.

The pH of the finished compound should be controlled and generally will range from 9 to 11.

The order in which ingredients are added is important to compound stability. The base latex must be stabilized to receive additives, which must be added in the right order or the emulsion may be broken.

Strong alkalis like caustic soda, caustic potash, or ammonia should be added slowly to avoid pH shock. Acidic sensitizers should be added even more slowly.

A good precaution is to observe the appearance of the emulsion before and after the various materials are added to note any sudden changes in particle size or viscosity, and a running pH check should be made.

Most compounds can be safely made up by adding the ingredients in the following order:

1. Base latex
2. Stabilizers and assistants
3. Slurry made from:
   a. Water
   b. Dispersing agent
   c. pH assistant
   d. Filler

The slurry is made up in the order indicated and kept agitated.

4. Cure base (sulfur)*
5. Acid acceptor (zinc oxide)**
6. Accelerators
7. Antioxidant
8. Color
9. Deodorant
10. Sensitizer
11. Thickener

* Cure base is sometimes shipped separately to be added to the compound when it is mixed.

** Zinc oxide is also an accelerator for sulfur as well as an acid acceptor.

Another important factor in the workability of a rug-backing compound is its viscosity.

Viscosity requirements in backing compounds range from water-thin to 2,000 centipoises and are maintained with thickeners after all ingredients have been added.

Thickeners function as stabilizers at times, but some types will even act as destabilizers by absorbing water from the system. Thickeners in use today include carboxymethylcellulose types, polyacrylates, natural gums, and types of clay. Certain ingredients of the backing compound are increased at times to raise viscosity, but usually this rise continues upward until the compound can no longer be handled.

The principal methods of applying backing to carpetings are spraying, roller coating, or by means of a knife blade or doctor. A combination of kiss-roll and doctor blade is often used. Some backings are applied to carpetings by adhesive lamination with the aid of pressure rolls.

The backing compounds are dried and cured in hot-air ovens that may be heated with steam or gas. Combinations

HOW DOES *YOUR* GARDEN GROW?

Your garden of fibers can blossom into beautiful fabrics when the skills of the Master Finisher combine with dependable SCHOLLER Finishes!

Get better acquainted with the wide range of superior products by SCHOLLER. Here are just a few:

DURA BEAU RESIN FINISHES: For hosiery and other fine fabrics that require superior qualities of "hand" plus added properties of fabric strength, stability and surface smoothness.

LANOLIZED FINISHES: Produces fabrics with unusually desirable cosmetic properties and superior comfort against the skin.

CREAMOYL FINISHES: Economically adds a high degree of softness and smoothness in practically all fibers and fabrics.

POLYEEN FINISHES: A superb wash-and-wear finish that produces a wonderfully soft, resilient, natural "hand" in the heavily-resinated fabrics.

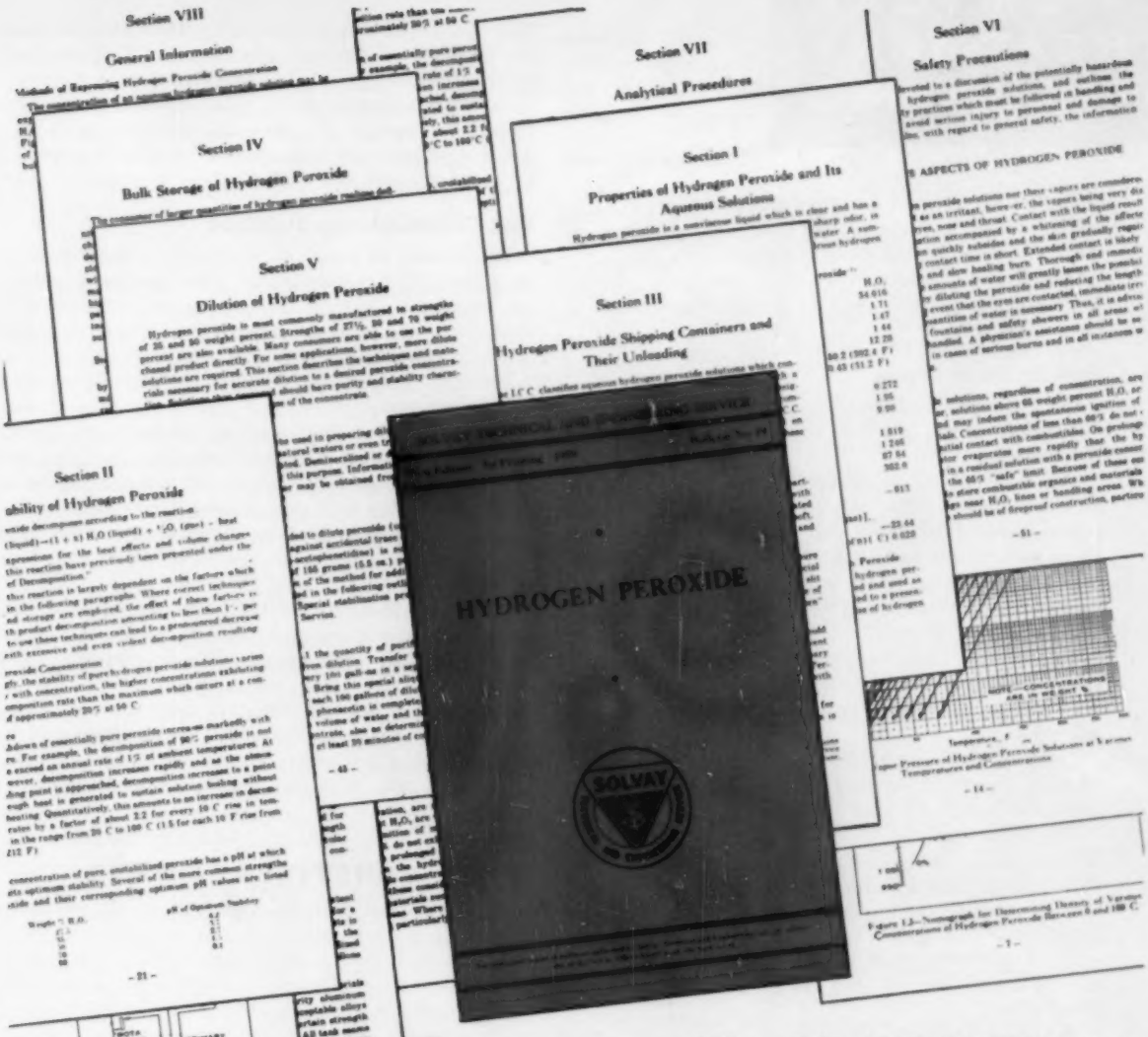
HYSORB FINISHES: Produces a "thirst" for moisture in the normally moisture-resistant fabrics of man-made fibers!

DURASEPTIC: A finish additive that inhibits growth of bacteria on fabrics . . . minimizes perspiration odors, retards mildew!

Scholler BROTHERS, INC.

PIONEERS IN THE BETTER FINISHES THAT MAKE THE BETTER FABRICS—SINCE 1907

Dallas & Westmoreland Sts., Philadelphia 24, Penna. IN CANADA: Scholler Brothers, Ltd., St. Catharines, Ontario



Get your copy of this BRAND-NEW 63-P.

SOLVAY HYDROGEN PEROXIDE TECHNICAL BULLETIN!

Sodium Nitrite • Caustic Soda • Calcium Chloride • Chlorine • Chloroform
Caustic Potash • Potassium Carbonate • Sodium Bicarbonate • Soda Ash
Ammonium Chloride • Methyl Chloride • Ammonium Bicarbonate • Vinyl Chloride
Methylene Chloride • Cleaning Compounds • Hydrogen Peroxide • Aluminum
Chloride • Mutual® Chromium Chemicals • Snowflake® Crystals • Monochloro-
benzene • Ortho-dichlorobenzene • Para-dichlorobenzene • Carbon Tetrachloride

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N. Y.

SOLVAY® branch offices and dealers are located in major centers from coast to coast. Send export inquiries to Allied Chemical International, 40 Rector St., N. Y. 6.

SOLVAY PROCESS DIVISION
Allied Chemical Corporation, 61 Broadway, New York 6, N. Y.

Please send without obligation your new Solvay Technical and Engineering Service Bulletin No. 19, "Hydrogen Peroxide."

☐ I use hydrogen peroxide principally for _____

_____

Name _____

Position _____

Company _____

Phone _____

Address _____

City _____ Zone _____ State _____ DW-30

CIRCLE 105 ON READER SERVICE CARD 105

of hot air and infrared are often used to advantage.

The drying and curing operation must be done as quickly as possible; but too-high temperatures may cause scorching, and too short a curing time can lessen adhesion and tensile strength and spoil the hand and appearance of the carpeting.

How To Speed Drying

Drying can be accelerated by raising the temperature of the heat source; in hot-air dryers, the air velocity may be increased.

Intake air can be dehumidified to increase its ability to pick up moisture. The latex compound itself will seldom rise in temperature above 200° F. and then only when about 90% of the water has been driven off. To speed drying of the balance of the water content, infrared drying with wave lengths tailored to the receptivity of the materials at hand is most efficient.

The thermal conductivity of the backing compounds is fairly good when the water content has been reduced to 10% or less, and this factor makes infrared drying more efficient.

Color has no appreciable effect on the efficiency of infrared absorption; so backing compounds need not be colored to reduce the time required to dry them.

One factor that can affect drying time is the stabilizer or soap that is used to maintain the latex emulsion. Non-volatile soaps remain in the backing compound, but soap with a volatile constituent may require slightly longer drying time. A high pH will also increase the time required for coagulation of the emulsion, and infrared heating is most efficient after the compound has jelled to some extent.

Sensitizers, also called accelerators, are usually added to a backing compound to speed up coagulation by lowering pH when heat is applied in drying.

What Happens in Curing

Curing is the term most used today to denote the original reaction of vulcanization. The first curing agent for natural rubber was sulfur, but today there are many chemicals that promote curing of both natural and synthetic latices.

The most accepted theory of what goes on in the curing process is that the latex molecules form bridges or cross-links with each other. The more of these cross-links that are formed, the stronger the rubber.

Curing is also accomplished by substitution and molecular rearrangement within the polymer.

Curing proceeds at a uniform rate at a given temperature and generally speeds up if the temperature is raised. Some accelerators, however, do not increase in activity with a rise in curing temperature.

The actual curing time is relatively short because the backing compound is slow to heat to curing temperature until its moisture content is relatively low.

Formulas are generally calculated so that a hot or fast cure can be realized in the shortest practical time. Care must be taken not to overcure, which would cause discoloration, or precure, which might affect emulsion stability or final physical characteristics.

Not all accelerators can be used with all latices. Butyl Zimate, for instance, is a fast accelerator for natural latex but is slow for GRS latex systems. The curing rates of various accelerators are available from suppliers.

How Compounds Are Stabilized

The amount of stabilizer included in a latex emulsion as shipped is not adequate to hold together a backing compound that contains fillers or extenders. Additives and inert fillers are generally prestabilized with a dispersing agent for this reason.

Emulsifying agents of all types are generally referred to as stabilizers when they are used in the backing compound as a whole. The term "dispersing agent" is applied to similar materials that are contained in fillers and extenders, and the term "surfactant" is often applied to stabilizers that are used to promote polymerization. Other chemically similar products are called wetting agents when they are used to improve penetration of the backing compound into the fiber.

Inorganic stabilizers like caustic soda or caustic potash are actually soap-formers in their own right and combine with the free fatty acid of natural latex to form a stabilizing soap *in situ*.

An important point to remember about the stabilization of latex emulsions is that the smaller the particle size of the latex and other ingredients, the greater the surface area is; consequently, a higher proportion of stabilizer is necessary.

WHAT CONSTITUTES HAND

In the rug- and carpet-backing field, the determination of hand is never based on any set standards. Hand is the sum total of the feel, in the hand of the person making the evaluation, and of all physical properties of the cured coatings and the substrate itself, with the exception of tensile strength. Generally, resiliency and weight are the two main factors in determining hand.

Flexibility

Flexibility is desired in the backing compound, but the goods must not be limp. One of the basic functions of the backing compound is to increase the dimensional stability of the carpeting. A coating that bends without cracking is acceptable. The modulus of the coating should be high. An increase of filler will decrease the amount of flexing a coating can stand. An increase of oil-type extenders will increase flexibility but will reduce modulus.

Resiliency

Resiliency of the coating is the snap-back experienced when the backed carpet is bent. The more resilient a coating, the more rubber it contains, provided cures are constant. The degree of cure will have a large bearing on the resiliency of the compound as well as the adhesion to the fiber. Some curing systems are maintained at a very low level to allow the addition of more filler or to give a deader hand when required.

Hardness

Hardness is not so much a factor in latex backings be-

cause the thin coatings do not present much opportunity for examination in this respect. But when coatings are evaluated in the laboratory, thicker coatings can be cast on a slab and the differences are then apparent.

Hardness is usually secondary to the more-important qualities of resilience, tensile strength, and the amount of filler a compound will carry and still retain the wanted characteristics.

Weight

Weight is controlled by the selection and total content of filler within the compound. The three most common fillers are clay, whiting, and barytes. Clay and whiting are comparatively equal in weight, whereas barytes weighs almost twice as much as either.

With heavy compounds, there is a tendency for the filler to settle out while the compound is in the liquid state. The viscosity must be controlled to prevent settling. A heavy compound is sometimes used to compensate for lack of bulk or weight in the goods. Weight control is very important from the standpoint of consumer sales appeal.

Surface Appearance

The surface appearance of a backing depends on the filler content, drying conditions, cure, and subsequent processes to which the goods may be subjected. A poor dispersion of filler will show up in the form of heavy concentrations, specks, globules, or clots in the finished coating. Fast drying will show surface wrinkles or splits. If the goods are washed, a low cure, or no cure, is indicated if the coating flakes off in large or small pieces.

Discoloration indicates the formation of HCl, usually in precoat compounds. In other cases, such as light and heat ageing, discoloration indicates oxidation or breakdown of the ingredients, including the elastomer itself.

Color is a factor in surface appearance. Most light-colored coatings are whitened by titanium dioxide. Clay imparts a neutral cream color, while whiting imparts a dull grayish color. Other colors are obtained with dispersions of color pigments as recommended by the pigment manufacturer. Any improvement or change of color involves extra cost; consequently, the fillers that are selected should approach the desired color as closely as possible.

Skid Resistance

Skid resistance can be partially determined in a hand analysis, but the real test takes place on a waxed hardwood floor. The amount of skid resistance imparted to the coating depends on the type of product. Small scatter rugs should have good skid resistance and larger rugs a fair amount. Carpets for wall-to-wall installation should have enough to prevent wrinkles from forming in ordinary usage.

The only way to impart good skid resistance to a backing compound is to maintain a low filler content. Natural-rubber compounds generally have more skid resistance than other types. Nitrile rubber may be used in extreme cases where the rugs or carpets are to be used on heavily waxed floors or where resistance to special varnish is required.

Adhesion to Substrate

Every backing compound achieves a certain amount of mechanical adhesion to the substrate. But the factor that makes a compound superior in fiber adhesion is actual chemical linkage to the fiber. Chemical adhesion of elastomer to fiber is achieved by the free reactive groups of the curing and acceleration system.

In most cases, such as with natural and man-made cellulosic fibers, the chemical linkage is good; but with the highly saturated, high-molecular-weight man-made fibers such as nylon, adhesion is difficult. Special linkage assistants must be used that displace part of the surface group of the fiber and promote adhesion by chemical combination with the elastomer.

A small loss in fiber tensile strength is to be expected; but if the backing compound is of high quality, the overall picture of total dimensional stability is good. At the present time, rug and carpet producers overcome this problem with very heavy coatings in order to secure better mechanical bonding.

TIPS TO TROUBLESHOOTERS

Dyes May Trigger Oxycellulose Formation

When textile chemists are confronted with white spots in yarn-dyed goods or tender spots in any goods that have been peroxide bleached, they immediately look for iron rust, bearing metal, or other possible sources of metal contamination.

But one plant traced white—and sometimes tender—spots to the dyes that had been used to dye the colored-yarn component of the fabric. The first clue that pointed to the dye was the fact that the damage occurred only on the dyed areas.

Analysis of the dyes showed that they were phthalocyanine derivatives. Tests under controlled conditions that eliminated peroxide activators produced white spots in some cases, which indicated that the colored yarn probably carried the activator before the goods were processed in the bleaching. Other trials indicated that the goods might be picking up trace metals in processing before bleaching.

In all cases, it was apparent that only very small amounts of metal were able to cause local damage to yarns dyed with this class of dyes. In one instance, a bronze screw head in the J-box was tracked down as the cause of white spots.

In view of these findings, the plant chemist should include an analysis of the dyestuffs involved as well as a thorough examination of goods, machines, and supplies when he has to locate the source of damage to peroxide-bleached goods.—E. C. JACKSON

POWELL

WORLD'S LARGEST FAMILY OF

VALVES

performance makes the world of difference

POWELL DEPENDABLE VALVES

With their advanced design, sturdy construction, and conforming to latest valve standards, Powell Valves can be depended upon for consistently satisfactory service with little or no maintenance. If you have a valve problem or an unusual flow control condition in the handling of water, oil, gas, air, steam, corrosive fluids, our engineers will gladly help you solve it. Check with your nearby Powell Valve distributor—or write to us.

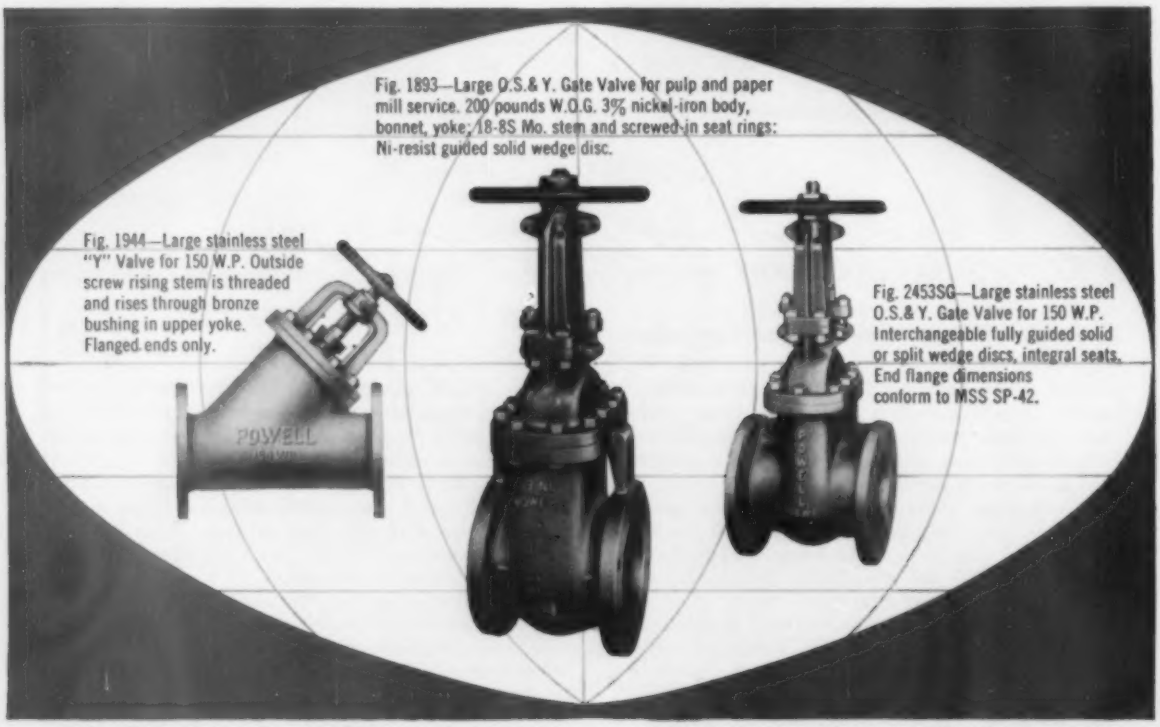


Fig. 1893—Large O.S.& Y. Gate Valve for pulp and paper mill service. 200 pounds W.O.G. 3½ nickel-iron body, bonnet, yoke; 18-8S Mo. stem and screwed-in seat rings; Ni-resist guided solid wedge disc.
Fig. 1944—Large stainless steel "Y" Valve for 150 W.P. Outside screw rising stem is threaded and rises through bronze bushing in upper yoke. Flanged ends only.
POWELL
Fig. 2453SG—Large stainless steel O.S.& Y. Gate Valve for 150 W.P. Interchangeable fully guided solid or split wedge discs, integral seats. End flange dimensions conform to MSS SP-42.

THE WM. POWELL COMPANY • DEPENDABLE VALVES SINCE 1846 • CINCINNATI 22, OHIO

CIRCLE 108 ON READER SERVICE CARD

CIRCLE 109 ON READER SERVICE CARD→

The wide range of properties now available in Eastman's Epolene series provides greater flexibility in formulating polyethylene emulsions for softening "wash and wear" cottons and synthetics, and for textile lubricants and sizes.

Permanent, low in color, non-chlorine retentive and easy to prepare, emulsions based on Epolene polyethylene give you a practical and economical method for improving the hand, abrasion resistance and tear resistance of "wash and wear" treated fabrics.

With Epolene, you can prepare any kind of emulsion system, cationic, anionic or non-ionic, with solids contents of up to 40%.

Choose from three different low-molecular-weight resins to obtain the right emulsion properties and finishing characteristics for your equipment and service.

Epolene E is the highest-molecular-weight resin of the three. It produces stable, low-color emulsion systems of superior quality for use in softening cottons or synthetics, or as a lubricant to reduce needle-cutting and increase sewability. Like other Epolene resins, it needs no curing, lasts through repeated launderings and resists dirt pick-up and redeposition.

Epolene LVE, a new resin type, has a lower melt viscosity than has Epolene E, thus offering somewhat better handling characteristics. Epolene LVE is softer than other resins in the series. The stability of its emulsions in the presence of resin catalysts is outstanding, especially at the low end of the pH scale, as indicated by its relatively high HLB factor.

Epolene HDE is the first high-density, emulsifiable low-molecular-weight polyethylene on the market. Because it is much harder, it improves significantly the abrasion resistance and tear resistance in cotton and cotton blends. Its stability and permanence are excellent. It, too, offers easier handling characteristics during emulsion preparation because of its low melt viscosity.

If you are formulating polyethylene softeners and would like to produce stable, economical emulsion systems of superior all-'round characteristics, look to Epolene from Eastman. Let us introduce you, also, to new time-saving and cost-cutting emulsifying techniques developed at our textile laboratories. For more information on the formulating and performance advantages of these superior polyethylene resins or for specific formulating assistance, write your nearest Eastman office. We invite your inquiry.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York City; Philadelphia; St. Louis. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

Eastman now offers textile finishers 3 basic types of polyethylene

New EPOLENE resins enable textile chemists to formulate broader range of softeners

Property	Epolene E	Epolene LVE	Epolene HDE
Molecular Weight	2500	1500	1500
Density	0.938	0.939	0.956
Ring and Ball Softening Point, °C. (ASTM D-36-26)	104-108	104-105	110-111
Penetration Hardness (100 g./5 sec./77°F., tenths of mm.)	2	5	1
Color (liquid), Gardner scale, max.	2	2	2
Brookfield Viscosity (cps. @ 120°C.)	1500	400	455

Epolene

EASTMAN low-molecular-weight polyethylene resins

Simple Finishing Processes Raise Gray-Goods Value

An Eastern mill that weaves a large volume of shoe- and jacket-lining fabrics uses a modern finishing range—

- **To prepare goods for napping**
- **To tint or starch fabrics that go directly to the cutter**

A SMALL BUT EFFICIENT FINISHING OPERATION is paying off for a gray mill that produces lining fabrics that might normally be finished outside.

Most of the goods handled are plain-woven fabrics that vary in weight from 2.35-yd. jacket linings to 3.80-yd. flannels that are used to line overshoes and rubbers.

An important function of the pad-tenter range is the preparation of the gray goods for napping. For this purpose, the cloth is run through a softener solution and dried to width.

A great deal of yardage is dyed on the range. Color requirements are simple, and direct dyes are used to produce a variety of shades that are suitable for footgear and outerwear linings.

Pad Design Aids Dyeing

Although fastness requirements for these classes of work are moderate, it is still necessary to maintain the same shade from end to end in a lot and from lot to lot.

The plant's engineering staff designed and built a pad box that helps materially to prevent tailing off.

The box is built so that fresh color flows first into a compartment that fits closely around the lower roll of the pad. Dye from this compartment flows to a small box in front of the pad roll. Cloth is led into the small box and under an immersion roller to become thoroughly saturated with dye. The cloth goes directly to the nip and then to the dry cans mounted overhead.

An automatic level control keeps dye liquor at a constant volume. The combination of small amounts of dye liquor, the counter-current feed, and careful selection of colors has reduced tailing off to a minimum.

The principal point in color selection is to use dyes that exhaust at an even rate. The plant's laboratory checked out many dyes to arrive at a few that would meet this requirement.

Both pad rolls are rubber of rather high density to keep moisture content down to approximately 65%.

Range Was Built To Fit

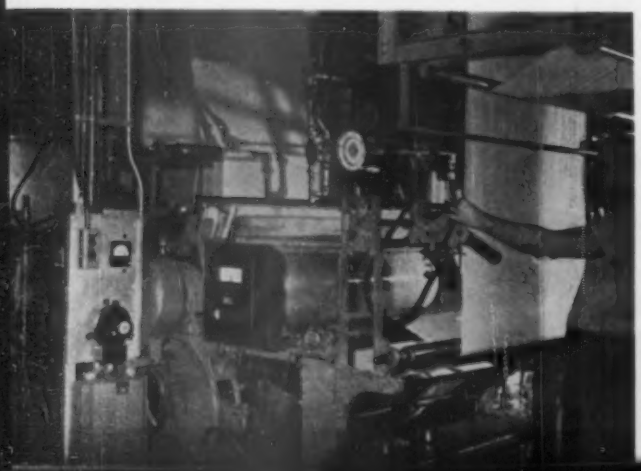
Floor space for the range was too limited to install the large stack of cans that were necessary to boost drying capacity; so the 36-can predryer was set up in a penthouse on the roof.

The cans are in two banks of 18 cans; each bank may be used independently or in tandem.

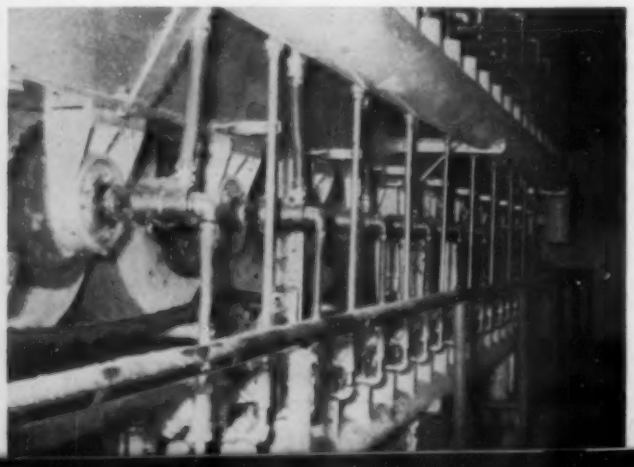
Good engineering is evident in this unit, which was built from the mill's own designs to fit the penthouse. Leakage of condensate is prevented by using modern rotary unions that have required no maintenance in over a year.

The biggest item handled at the plant is a 2.76-yd. fabric

THIS WELL-EQUIPPED PAD can be used for wetting out, starching, or dyeing. An automatic level control helps to keep dyeings the same from end to end of a lot.



DRY CANS set up in a penthouse are chain-driven, ball-bearing units that will operate at 30 lbs. pressure. The first six cans are Teflon coated to reduce pickup.



SCRAY provides continuous flow of goods to finishing range. Chain hoist minimizes labor necessary to mount new rolls on let-off.

that is given a softener on the finishing range and is then napped fully on both sides. These goods are generally not tinted. There is also good demand for fully napped 2.35-yd. flannels.

The 3.80-yd. flannels, which find a market in the rubber trade, are generally napped on one side and scratched on the other. The scratched surface provides better adhesion to the rubber.

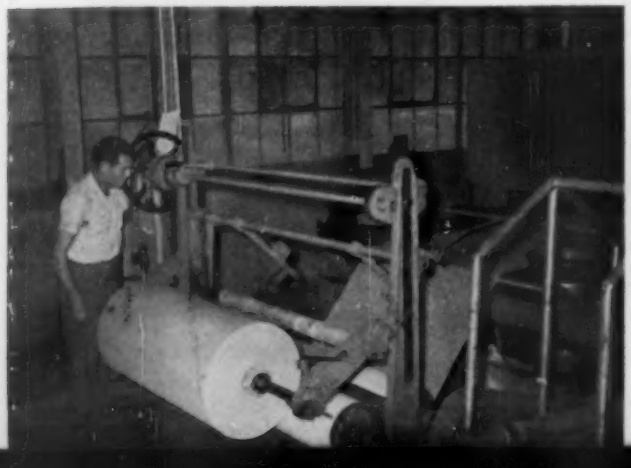
Shoe linings are napped and then are starched to suit customer's requirements on the range. After starching, the goods are given another run through the nappers to free the nap and increase its loft.

The range plus one bank of cans will dry well over 100 yds. per min. of 3.50-yd. goods. Both banks of cans are seldom used because it has been found that operating speeds are controlled to some extent by other factors.

Too high a speed can cause foaming trouble in the pad box, which in turn tends to give spotty dyeing. And although the range is equipped with a continuous let-off and batching facilities, beyond a certain point excess speed multiplies the chances of troubles such as misclips, smashes, and faulty seams that can crop up despite vigilant operators.

The range easily keeps up with a 24-hr. napping operation while running on a 10-hr. basis.

MODERN VERSION OF SIMPSON BATCHER doffs full rolls and starts a new one without stopping the range. Heavy paper cores are used to wind goods on.



IT'S FIRST! – IN SKEWED WEFT CORRECTION!

SKEW LINER

The choice of *PROFIT-WISE* management!

Mill executives know that profits depend upon low-cost, trouble-free production — particularly the elimination of skewed weft problems. Leading mills have tested the Mount Hope SKEW LINER, with its Electro-Mechanical Detection System, and have found it far superior for handling all weights of materials from sheers to many decorative fabrics.

The Mount Hope SKEW LINER is being used by leading Finishing plants in all textile areas. Representative plants are: —

Sayles Finishing Plants, Inc.
Sayles Bleacheries Division
Saylesville, Rhode Island

Cranston Print Works, Inc.
Cranston, Rhode Island

Sayles Biltmore Bleacheries, Inc.
Biltmore, North Carolina

Southern Bleachery & Print Works, Inc.
Taylors, South Carolina

Riegel Textile Corporation
Ware Shoals Division
Ware Shoals, South Carolina

Woumbec Dyeing & Finishing Co.
Manchester, New Hampshire

Waldrich Company
Delawanna, New Jersey

Burlington House Fabrics Finishing Co.
Burlington, North Carolina

— and many others.

Their experience with this modern, sensitive, truly-automatic detection system suggests that you write *today* for literature giving FACTS and PROOF that it can cut your costs.

STEP UP! – TO POSITIVE SKEWED WEFT ELIMINATION!

For full information write for Bulletin #*A.S.L.* or better still why not talk it over with a Mount Hope Engineer.

Mount Hope

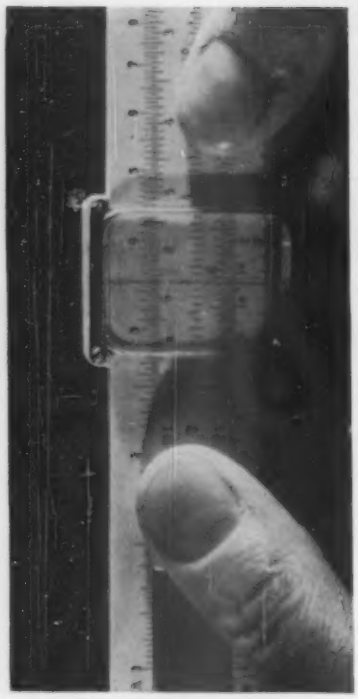
MOUNT HOPE MACHINE COMPANY, INC.

50 FIFTH STREET • TAUNTON, MASS.

PLANTS AT
TAUNTON, MASS., CHARLOTTE, N.C., U.S.A. and DARTFORD, KENT, ENGLAND
WORLD WIDE DISTRIBUTOR
MOUNT HOPE MACHINERY S.A. • LAUSANNE, SWITZERLAND

BRIEFS

on caustic soda economics
lauryl pyridinium chloride
several textile chemicals



50% TO 73% CAUSTIC SODA . . . DOES IT PAY TO SWITCH?

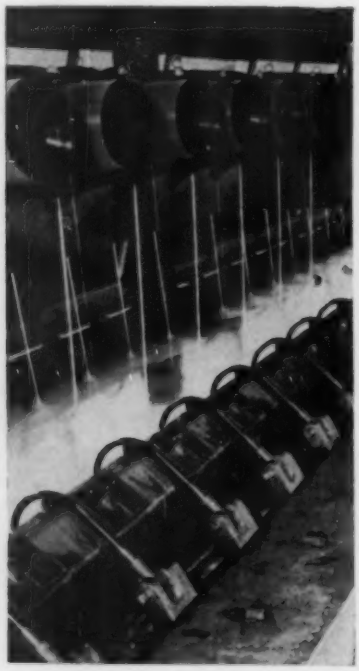
It depends.

Check your savings on freight for 73% caustic. Then subtract the annual depreciation on the dilution equipment you'll need.

If you still show a saving, it would be wise to consider the big switch seriously.

We'll be glad to help you survey the economics of 50% versus 73% caustic. Just send for a copy of our Caustic Soda Buyer's Guide. It contains a handy nomograph that helps you estimate possible annual savings on 73% caustic soda.

Our representative can help you with further details. Just write our nearest Hooker sales office.



END COSTLY CLOGGING IN SPINNERETTES

You cut costs of making rayon when you put lauryl pyridinium chloride in your spinning bath.

This chemical keeps spinnerettes clear of suspensions and reaction products. It washes away impurities like precipitated cellulose, sulfur deposits, resin particles, and secondary reaction products.

Our product is 85%-pure alkyl pyridinium chloride. It is soluble in water and in a variety of organic compounds.

Write for our data sheet with more details on properties and actions.

MORE TEXTILE CHEMICALS

If you'd like information on other Hooker chemicals for the textile industry—such as chlorine, oxalic acid, potassium carbonate, trichlorethylene—send the coupon for data sheets. These data sheets will fill you in on specifications, descriptions and typical data.

Maybe you'd like our chlorine manual, too. It's a de luxe hard-cover book packed with practical information. A check on the coupon will bring it to you.

For more information, check here and mail with your name, title and company address.

☐ Caustic Soda Buyer's Guide ☐ Chlorine Manual
☐ Lauryl Pyridinium Chloride Data Sheet ☐ Oxalic Acid Data Sheet
☐ Potassium Carbonate Data Sheet ☐ Trichlorethylene Data Sheet

HOOKER CHEMICAL CORPORATION
1703 Forty-seventh Street, Niagara Falls, N. Y.

Sales Offices: Buffalo Chicago Detroit Los Angeles New York Niagara Falls Philadelphia Tacoma Worcester, Mass.
In Canada: Hooker Chemicals Limited, North Vancouver, B. C.

HOOKER CHEMICALS PLASTICS

FREE from your Local Jenkins Distributor...

"Most Valuable Guide to Valve Economy Ever Published"

TO OBTAIN IT
. . . write or phone your local Jenkins Distributor. If his supply should be exhausted, please request a copy direct from Jenkins Bros. (Dept. E), writing on your letterhead and giving the name of your Jenkins Distributor.

During the last war, when valves were in short supply, "Prevent Valve Failure Before It Starts" was prepared by Jenkins Bros. as a patriotic service. It has been called "the most valuable guide to valve economy ever published". Continuing requests for this out-of-print book led to a recent decision to reprint it.

This book is not advertising matter, and it contains no catalog data. It is costly to produce and the quantity is limited but plant and building operating and maintenance executives and others who install and maintain valves are more than welcome to a copy. Ask your local Jenkins distributor for it.

THE CONTENTS, and the purpose of this book, are given in the following Foreword; page 1 . . .

"Valve economy is an objective of good plant management at all times. It is more important than ever today because of the greatly increased costs of valve replacement and maintenance that have paralleled the rise in all expenses of plant operation.

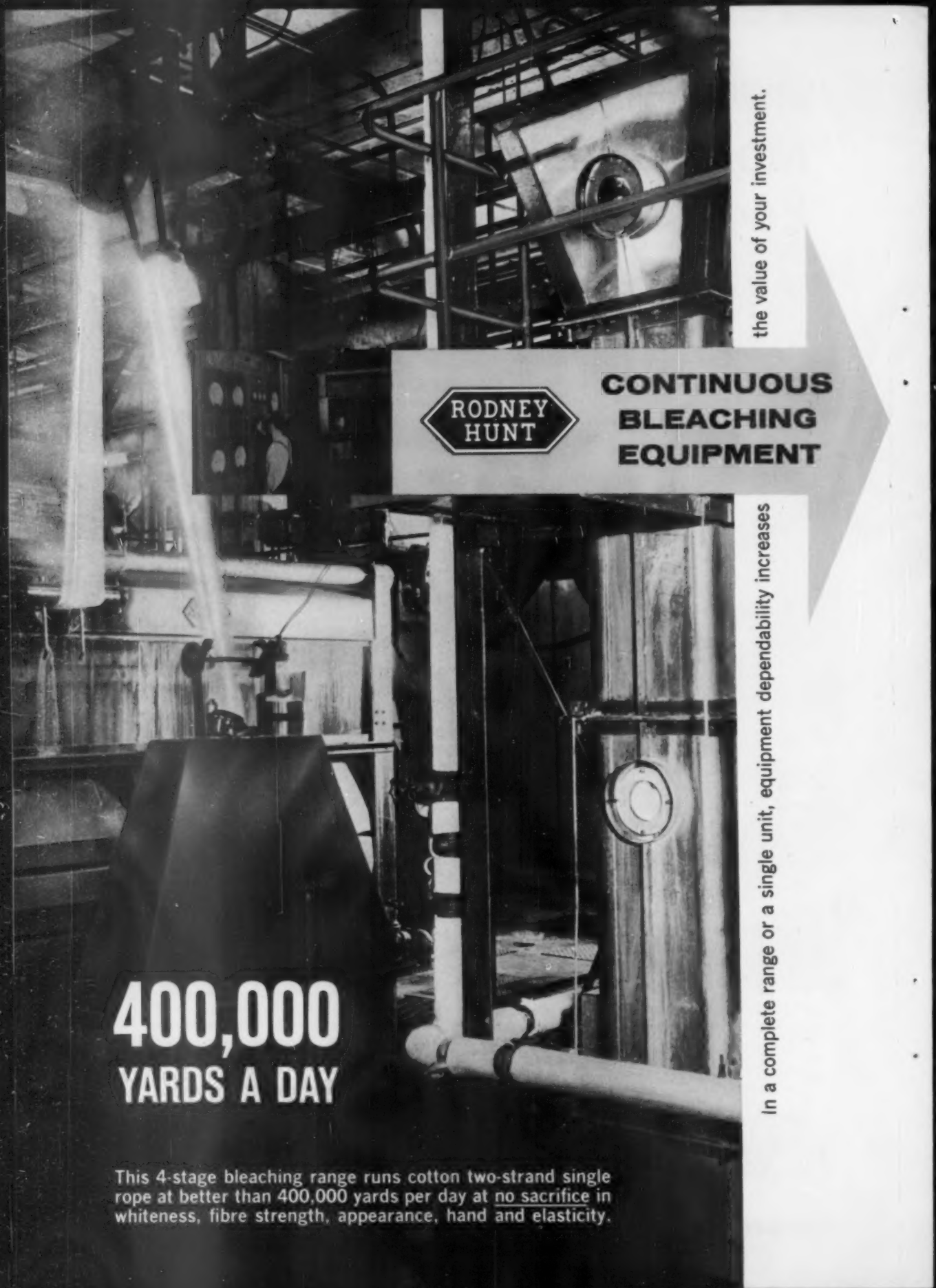
Most valve failure can be prevented before it starts. But to prevent failure, and insure the efficient operation of valves that contributes to plant productivity, four rules must be constantly followed: proper *selection*, correct *installation*, adequate *inspection*, and experienced *maintenance*.

This booklet has been prepared for plant management and supervisors, to explain and illustrate the principal causes of valve failure, how to prevent similar failures, and how to repair damaged valves. In addition to general instructions for installation and maintenance, it includes several examples of actual valve damage and destruction which have been brought to the attention of Jenkins Engineers. In each case the relatively simple precautions that would have prevented such needless waste are clearly explained, in non-technical language."

JENKINS VALVES

Jenkins Bros., 100 Park Ave., New York 17.

CIRCLE 113 ON READER SERVICE CARD 113


RODNEY HUNT
CONTINUOUS BLEACHING EQUIPMENT
In a complete range or a single unit, equipment dependability increases the value of your investment.
400,000
YARDS A DAY
This 4-stage bleaching range runs cotton two-strand single rope at better than 400,000 yards per day at no sacrifice in whiteness, fibre strength, appearance, hand and elasticity.

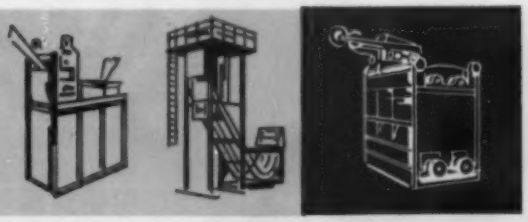
RODNEY HUNT TEXTILE WET-FINISHING EQUIPMENT

A LONG-TERM INVESTMENT IN SOUND ENGINEERING AND SKILLFUL MANUFACTURING

Since 1840, Rodney Hunt has been serving industry with a wide range of highly dependable equipment designed and manufactured to meet the requirements of improved finishing techniques. Today, this wealth of experience is reflected in extensive and continuous research, engineering and manufacturing of the highest order.

BLEACHING

Complete single or multi-stage Ranges, including Rangette® equipment for lower production needs. Slack Loop and Tensitrol® Washers, Saturators (rope or open-width), J-Boxes (Du Pont and Becco designs), Tanks, and complete chemical feed systems, instrumentation, and drive.



DYEING and FINISHING

Complete continuous dyeing and finishing Ranges for piece goods and carpets, including Wring-Master® and Niptrol® Padders and Extractors, Tensitrol® Steamers and Agers, Standard and Tensitrol® Open-Width Washers, Tru-Shade® Dye Becks and Kettles for rope or open width, including Sample Machines, Tru-Shade® combination Washing and Dyeing Machines.

WASHING

Tensitrol Washers developed to wash fabrics in relaxed condition at highest efficiency and lowest cost include: the Tensitrol® Washer (rope and open-width), Tensitrol® Duplex Washers for increased washing efficiency, the Tensitrol® Tandem Washer for greater working capacity, and the Model B Tensitrol® for limited capacity, the Slack Loop Washer, the Endless Felt Washer, the Yankee Clipper® Washer, and the Reverse Scouring Machine for lace scouring.

SPECIAL MACHINES and AUXILIARIES

Non-Woven Saturators, Fulling Mills, Wring-Masters®, Rotary Laminating Presses, Coaters, Sample Dyers, Let-off and Batching Equipment, Folders, Compensators, Draw Reels, Doffers, Scutchers, and all types and designs of Shaf-tite® Industrial Rolls.

SEND FOR LITERATURE

Catalog No. TM-89—
Textile Wet-Finishing Equipment

Bulletin No. 54—
Niptrol® Mangle

Catalog No. 849—
Tensitrol® Washers

RODNEY HUNT MACHINE CO.

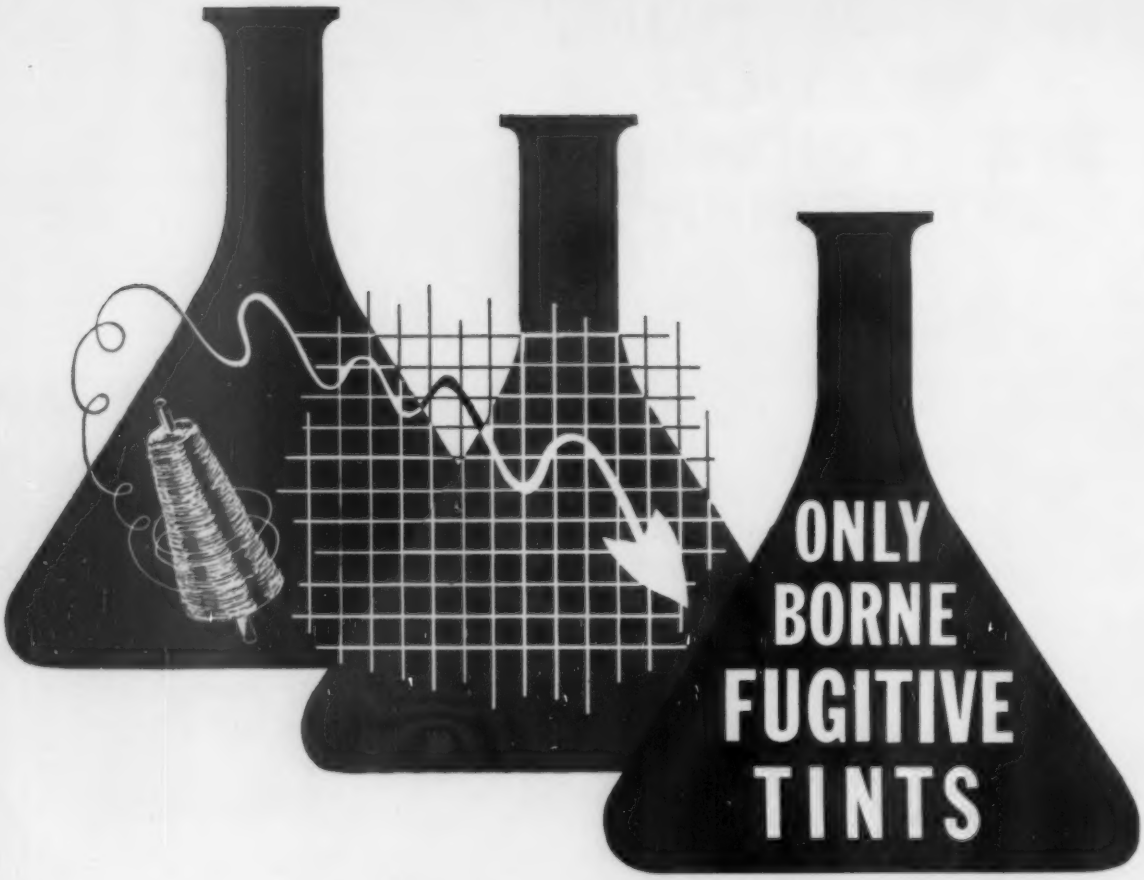
66 Mill Street, Orange, Mass., U. S. A. • Telephone Kingsdale 4-2511

SALES AGENTS:

Hayes Textiles Co., Inc., Spartanburg, South Carolina
W. J. Westaway Co., Ltd., Montreal, P.Q., Canada
W. J. Westaway Co., Ltd., Hamilton, Ont., Canada

RODNEY HUNT®

CIRCLE 115 ON READER SERVICE CARD 115



are POWER-MATCHED

To Provide Predictable Cost Control

MINOTINT – Highest power-matched tinctorial strength available.

SOLUTINT – Widest selection of POWER-MATCHED colors.

PETROTINT—A new line of oil-soluble fugitive tints.

TINTINOL—The first prepared solution tints, originated by Borne.

SYNTINT – Pigment dispersions for heat-conditioned nylon and wool.

POWER-MATCHED TINCTORIAL STRENGTH is the outstanding property of Borne's **MINOTINT, SOLUTINT** and **PETROTINT** series. One ounce of any selected color will produce the same relative sighting intensity as one ounce of any other color in the same series. Hence the term **"POWER-MATCHED."**

DESIGNED FOR MAXIMUM FUGITIVITY on all fibers with normal scouring, **BORNE** Fugitive Tints are color concentrates compounded in a fiber-conditioning formula that combines lubricant, surfactant, humectant, and antistatic components.

DRAMATIC COST SAVINGS based on mill cost per pound of fiber tinted—not on cost per pound of tint—are possible through selective application of Borne colors. The Borne Tint Test Method will prove this for you. It is a simple, direct method for comparing tint strengths and calculating mill costs.

WRITE TODAY for our unique **TEST KIT** and more information —complete in the Borne Fugitive Tint Brochure.

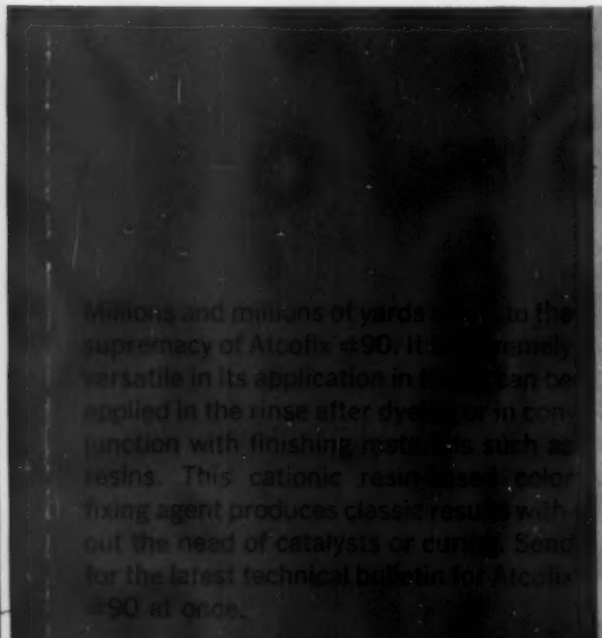
BORNE CHEMICAL COMPANY, INC.

632 South Front Street, Elizabeth, N. J. • 600 Atando Avenue, Charlotte, N. C.
FLanders 1-1717 EDison 2-8810

check all the plus advantages of

ATCOFIX #90

Metro-Atlantic's color fixing agent that imparts supreme fastness properties to low-cost commercial colors.



Millions and millions of yards attest to the supremacy of Atcofix #90. It is extremely versatile in its application in that it can be applied in the rinse after dyeing or in conjunction with finishing materials such as resins. This cationic resin-based color fixing agent produces classic results without the need of catalysts or curing. Send for the latest technical bulletin for Atcofix #90 at once.

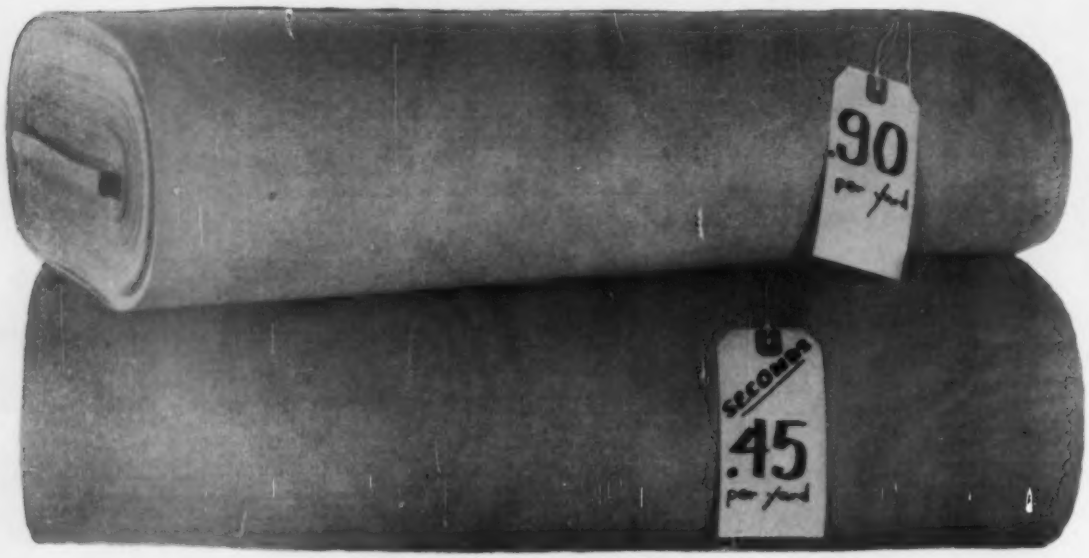
PLUS ADVANTAGES

- ✓ Increases wet fastness
- ✓ Increases the wash fastness
- ✓ Increases fastness to acid and alkali perspiration
- ✓ Produces durable hand
- ✓ Keeps costs way down
- ✓ Increased ease of application

CHEMICALS (MA) DYESTUFFS | CALL YOUR **METRO-ATLANTIC** REPRESENTATIVE FOR DETAILED INFORMATION

Main Office: CENTREDALE, R. I.; *Manufacturing Plants:* CENTREDALE, R. I., GREENVILLE, S. C.; *Offices, Service Laboratories, Warehouses:* CENTREDALE, R. I., GREENVILLE, S. C., BURLINGTON, N. C., HAWTHORNE, N. J.; *Foreign Branches:* GRANBY, QUEBEC, HAVANA, CUBA; *Sales Promotion Office:* 6 EAST 39TH ST., NEW YORK 16, N. Y.

BOTH COULD HAVE SOLD FOR 90c per yard!



d-2 LESTOIL REMOVES SOIL that often causes "seconds" and reduced prices.

The difference between full-price, full-profit "perfects" and cut-rate "seconds" often is the result of improper cleansing which causes faulty bleaching or dyeing.

LESTOIL removes grease, oil, graphite, natural waxes and gums, soluble sizing, mill dirt — all the soils that may cause "seconds".

No need for changes in your present methods or equipment. Simply add d-2 LESTOIL to your regular scouring solution. You can use it safely even on wool, silk, and synthetic fabrics.

d-2 LESTOIL prevents redeposit of soil . . . rinses out easily, completely . . . leaves soft, pliable fabrics that bleach and dye with exacting uniformity.

Yours A generous, free sample of d-2 LESTOIL and complete technical information on how to increase your "perfect" output. ***Write today!***

LESTOIL, INC.

163 Garfield Street

HOLYOKE, MASS. a subsidiary of Adell Chemical Co.

Down
with
finishing
costs–
safely!

"AC" catalysts help you achieve finer results at lower cost—through longer resin bath life, faster more complete curing of thermosetting resins, with minimum resin add-on. And Monsanto AC Catalysts are compatible with practically all finishing agents. Write for complete technical data, and expert finishing counsel, to Monsanto Chemical Company, Plastics Division, Room 746, Springfield 2, Mass.

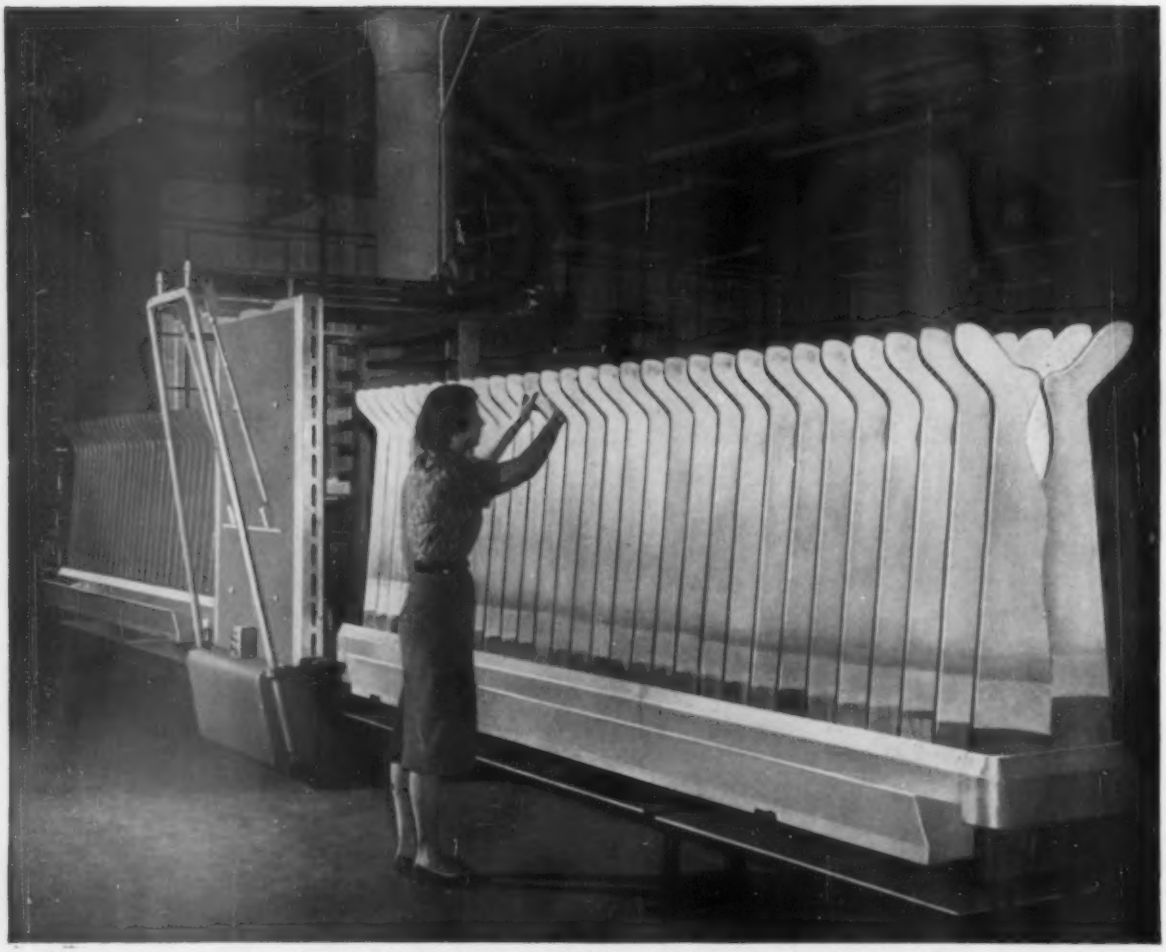
Monsanto

MONSANTO DEVELOPER IN **PLASTICS**

Other Monsanto textile chemicals: Resloom® E-63 chlorine resistant resin; Resloom E-50 cyclic urea resin; Resloom HP and M-75 melamine resins; Stymer® sizes; Lytron® polystyrene latices®

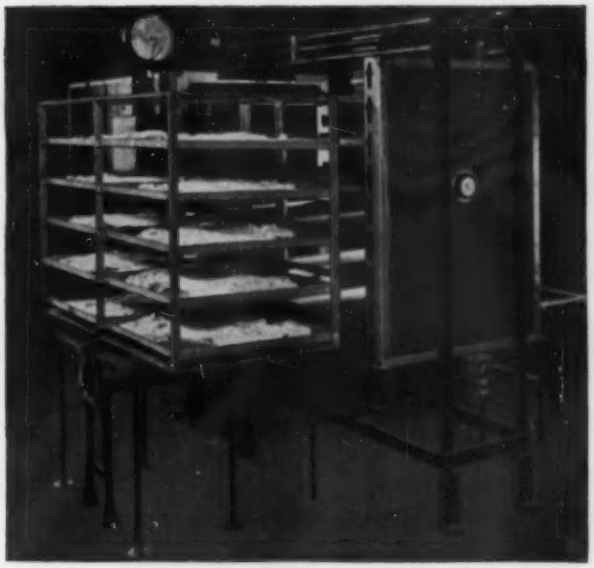
CIRCLE 119 ON READER SERVICE CARD

New dimensions in production with Turbo Machines



Turbo Dye Boarder is a complete hosiery dyeing and finishing operation in one machine.

Modified filament sweaters are "set for life" in the Turbo Sweater Setter.



Here are two Turbo Machines, mill-proved for increased efficiency, and lower production costs.

The Turbo Dye Boarder combines dyeing, boarding, setting, and drying in one push-button controlled operation. Pressure dyeing accomplishes deep penetration of dyeing and finishing materials into the fiber, bringing about rich color values, more life and elasticity, better light and wash fastness, better snag resistance, and longer wear. Production capacity is 140 dozen pairs per shift with one operator.

The Turbo Sweater Setter is a tray-type machine with a production rate of 400 dozen sweaters per 8-hour day. Electrical timers regulate the vacuum and steam cycles to insure fast, uniform setting with no air or moisture pockets. The machine thermosets modified filament sweaters, assuring dimensional stability of the fabric, increased wrinkle resistance, improved dyeing properties, increased smoothness of fabric surface, and improved hand.

Turbo builds a complete range of heat-setting machines for fibers, yarns, fabrics, and finished garments . . . dyeing, extracting, and drying machines for skein and package yarns . . . finishing machines for woolen and pile fabrics . . . Staplers and crimpers for converting synthetic tow to the finest staple.

Write us your requirements.

TURBO

. . . a family of engineered machines

TURBO MACHINE COMPANY, LANSDALE, PA.

CIRCLE 121 ON READER SERVICE CARD

LOW COST TROUBLE-FREE OPERATION ...EASY INSTALLATION

New ALLEN PACKAGE DESIGN KIERS

For boiling or bleaching all types of cotton goods from gauze to heavy twills, these new ALLEN stainless steel Package Design kiers offer unusual opportunities for more profitable operation to small and medium sized bleacheries and those doing fine fabrics. Large plants, too, find them extremely useful for short runs and special fabrics. In many cases, they are replacing continuous bleaching operations for certain types of goods. Allen Package Design Kiers feature:

- **A completely prefabricated unit — pump and heater are integral parts of the kier — for easier installation and maintenance.**
- **Smooth, stainless steel interiors eliminate rub, rust and stain marks.**

Write today for circulars giving complete information on this as well as Allen kiers for knit goods and kiers for cotton and cotton batting.

William Allen Son's Company
SHREWSBURY • MASSACHUSETTS

A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

CIRCLE 262 ON READER SERVICE CARD

FIRST *from BALTIMORE*

Alexander Brown, in the year 1800, founded the *first* INVESTMENT HOUSE, established in America.

AND ALSO FROM BALTIMORE...

YOUR FIRST CHOICE IN BLACKS

- DIRECT
- ACID
- DEVELOPED
- ACETATE
- FORMALDEHYDE
- LOGWOOD

THE HOUSE OF BLACKS

Consult your local dyestuff distributors for information and samples. Shipments can be made from our Baltimore factory.

Courtesy – The Baltimore News-Post

YOUNG ANILINE WORKS, INC.

OFFICE AND FACTORY: 2701-2733 BOSTON STREET • BALTIMORE 24, MARYLAND

FREE... for your files... INFORMATIVE TECHNICAL ARTICLES ON TEXTILE STARCHES

Titled "What You Should Know About Starch," this series of articles covers such subjects as:

- **A** — **Size Preparation in Textile Mills**
- **B** — **Size Foaming—Its Cause And Cure**
- **C** — **Acidity and Alkalinity—Significance of pH**
- **D** — **New Improvements in Slashing**

Here are some of the Hubinger OK BRAND Products especially engineered to meet specific requirements of the Textile Industry:

OK—Hubfilm
OK—Hubclor
OK—Waxyfilm
OK—Printex
OK—Keotac
(cationic)

A complete series written by Textile Specialists of The Hubinger Company

During the past several months, as a service to all our friends in the Industry, we have presented a series of technical articles concerning textile starches. Reprints of these information-filled articles, as well as future articles, are available to you in convenient filing form just for the asking. Simply fill out the coupon below, and we shall be happy to send them to you.

The Men From Hubinger—trained specialists in textile starches—are at your service (without obligation) to help you with any starch related problem you may have. Phone or write—we shall welcome the opportunity to serve you in any way we can.

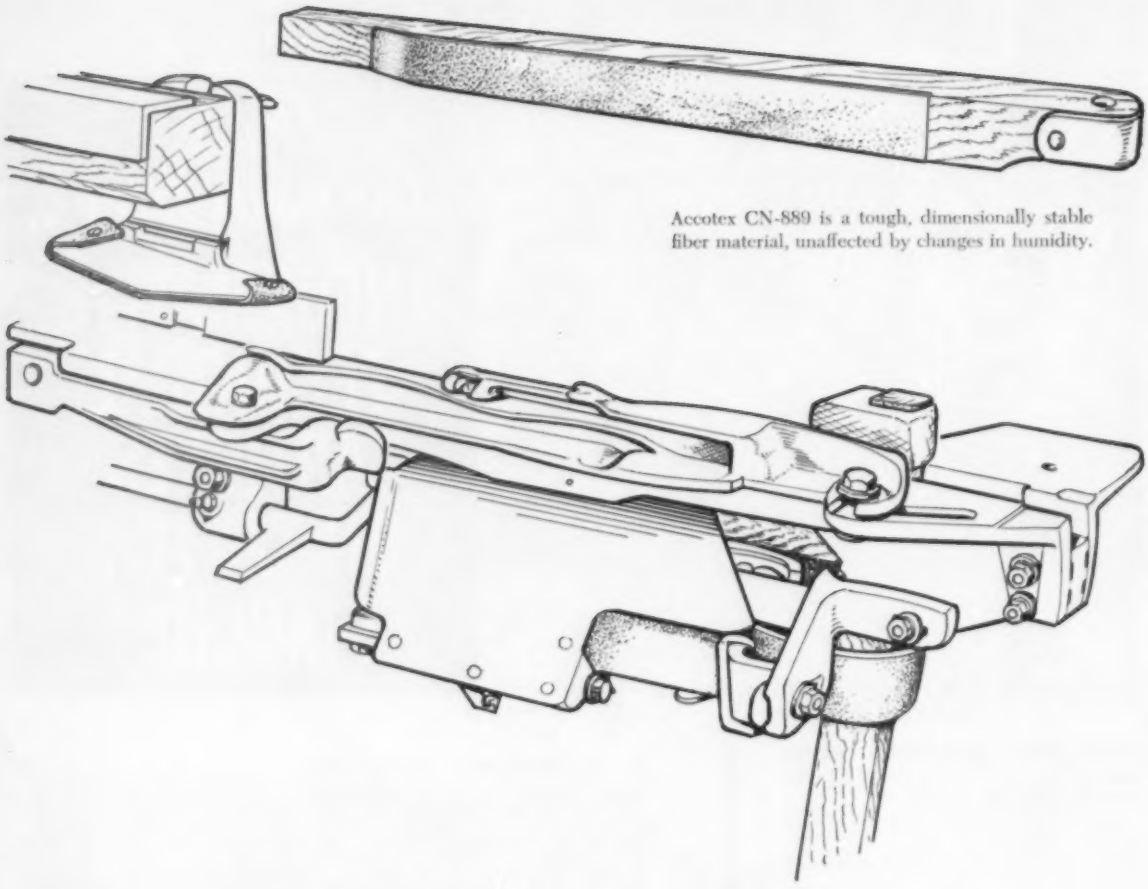
The Hubinger Company

KEOKUK, IOWA

OK, please send me, without obligation, reprints of your textile starch articles checked below: A B C D

All future articles:
Information about: .....

NAME .....
TITLE .....
COMPANY .....
ADDRESS .....



Accotex CN-889 is a tough, dimensionally stable fiber material, unaffected by changes in humidity.

New loom binder material from Armstrong wears much longer, needs less resetting

Important savings in labor and reduced loom down time are made possible by Accotex CN-889, a new loom binder material developed by Armstrong.

CN-889 wears much longer than natural materials, even with heavy plastic shuttles. And it requires less resetting and break-in time. As a result, shutdowns for binder replacement and resetting are substantially reduced.

In addition to these advantages, CN-889 actually costs less than other materials. It comes in strips cut to size, ready to attach to your binders and box fronts.

Try CN-889 on your looms. Your Armstrong man will arrange for a test. Get in touch with him today or write Armstrong Cork Company, Industrial Division, 6903 Dauphin Street, Lancaster, Pennsylvania.

Armstrong LOOM SUPPLIES

1860–1960 Beginning our second century of progress

How To Check Naphthol Coupling Component

Technical Editor:

Do you know of any method whereby the balance between a naphthol base and its coupling component in a continuous dyeing process can be quickly checked? (1479)

Here's a method, suggested by one of the large chemical manufacturers, that is said to give satisfactory results:

Once the bath has been set up according to the dye manufacturer's recommendations, hold a piece of naphtholated cloth against the coupled fabric at the delivery end of the coupling section of the range. There should be enough free coupling component on the goods to stain the sample.

How To Prevent Kinky Yarn at Spooler

Technical Editor:

We are having trouble with kinks forming in the yarn at our spooler. Can you tell me what causes kinks at this operation and what can be done to prevent the trouble? (1500)

Kinks can be caused by the rise roll being set too low, the pressure-level spring too loose, the yarn number too heavy, too much twist in the yarn, and too much slack in the slack tube.

Some suggestions offered to combat this problem are:

Clean all suction tubes and the slack arm with mineral spirits weekly, and put more tension on pressure-roll springs.

Move the rise roll up to make the cheese turn faster. This change is said to eliminate kinks but may increase end breakage.

Cut an 8½-in. piece of $\frac{1}{4} \times \frac{3}{16}$-in. key steel, and put it on the back of the plough so that it slopes down toward the drum. This slope will tend to pull out the kink before the cheese reaches the drum.

Doff all spinning frames with the rail going down and about one-third of the way from the top of the last stroke. When a bobbin doffed in this way is tied to the cheese at the spooler, the yarn pulls off the bobbin under enough tension to pull out the kinks.

Conditioning Helps Acetate Calendering

Technical Editor:

How can we prevent the selvages of all-acetate satins from nipping when we calender them? The selvages are quite loose after tenter drying, and no reasonable amount of tension at the calender will overcome the trouble. (1494)

All-acetate satins are particularly prone to the trouble you mention. When these goods are tenter dried, there is a fair amount of warp shrinkage in the body of the fabric. The selvages are held firmly by the clips and do not shrink.

The trouble can be eliminated in most cases by running the dried goods over a perch and letting them lay overnight to cool and absorb atmospheric moisture. You can also apply steam to the back of the goods as they enter the calender, which will relax the warp threads in the body of the goods.

In rare cases, the selvages are heavier than the body of the goods and may have been permanently stretched during jig dyeing or bleaching. Little or nothing can be done for goods in this shape.

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Condensation on Walls Wets Weave-Room Floor

Technical Editor:

We are troubled with condensation on our weave-room walls; water runs off on the floor. The outside walls are 21 ins. thick and painted on the inside. Can you tell us how to stop the moisture formation? (1487)

We know of nothing that will completely stop condensation of moisture on the walls of a high-humidity weave room. But there are a number of things that you can do to reduce this annoyance.

Troughs placed around the base of the walls will keep much of the moisture off the floor, but you will have to keep a close watch on the drains to keep them from stopping up with lint and overflowing.

We know of one mill that installed a 1-in. steam line on the wall about 1 ft. from the floor. The heat from the steam substantially curtailed condensation.

If you plan to brick up your windows, see that foam-glass insulation is put between the layers of brick. Insulation will keep the walls from cooling off too rapidly and should reduce condensation in the window areas.

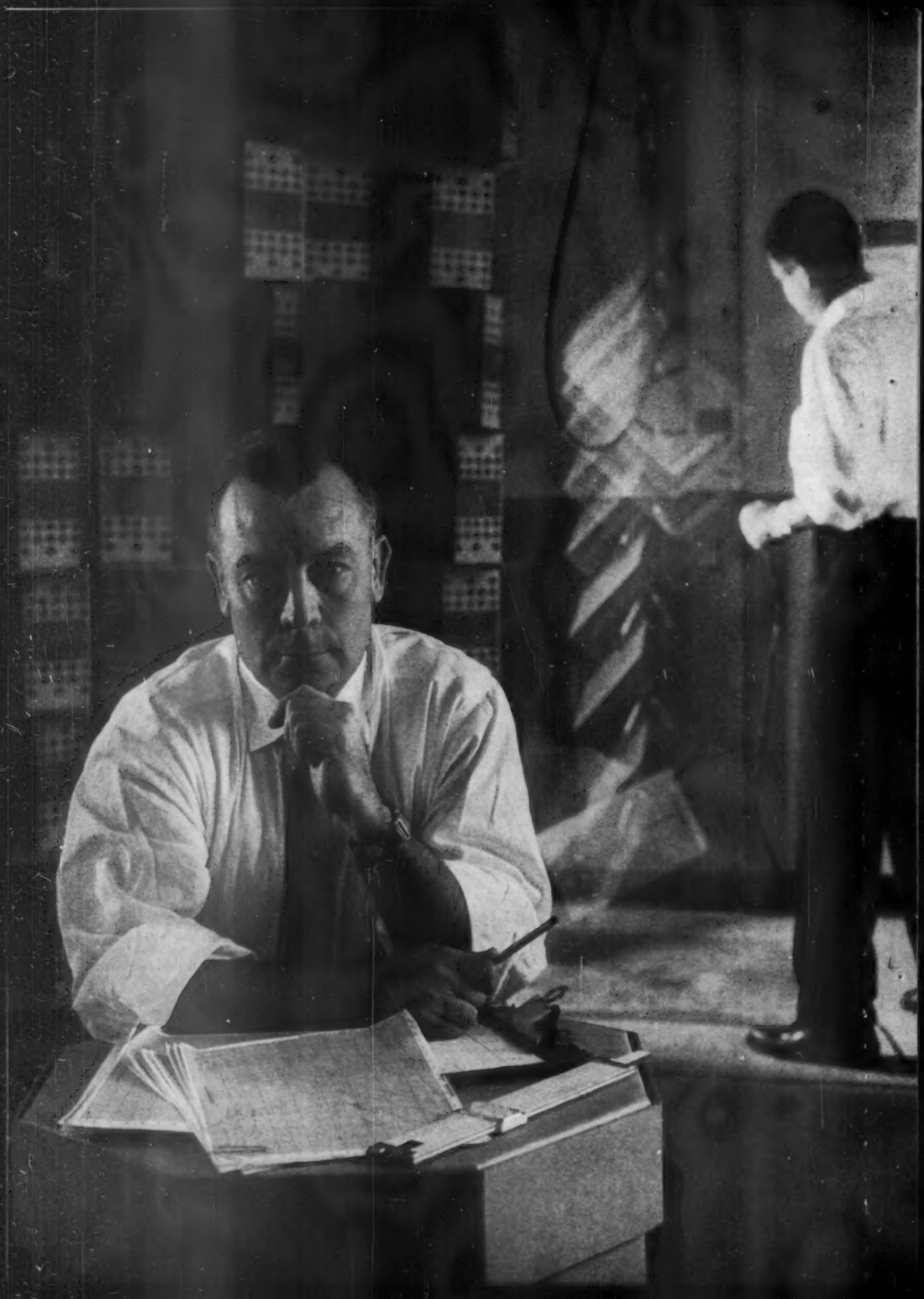
Cover Oxycellulose With Vat Dyes

Technical Editor:

We recently had some broadcloth that developed oxycellulose spots during kier boiling, and these spots will not dye to the same depth as the balance of the goods. We normally use direct and developed colors on this line. Is there any treatment that we can give this fabric to make it dye properly? (1492)

If the oxycellulose spots are only slightly less dyed than normal cloth, you could try stripping, mercerizing, and redyeing. If this procedure fails, strip the goods and redye them by the pigment-pad vat-dyeing process.

Oxycellulose spots that come out of a dyebath dead white are practically incurable by any dyeing method.



His specialty is collision insurance

And making sure you don't collect on it.

With Thorne Kitchel there's precious little chance. The crash program he puts your containers through assures that the design and construction are adequate for your product before production begins.

Thorne heads up a team of seasoned "security analysts" at Union-Camp's packaging laboratory. In his 15 years as a corrugated box specialist, he has tested thousands of boxes designed to protect all kinds of products. He's also helped save thousands of damage-claim dollars for their owners in the process.

At the Union-Camp packaging proving ground, Thorne and his staff test new shipping containers for their ability to withstand almost any conceivable threat to product safety. Sudden rail-car stops and starts, for example. Punctures from sharp objects. Resistance to extremes of temperature. Accidental falls. Vibration. Or the extent to which a shipping container will protect your products under the crushing pressure of high stacking.

Even the components and materials that go into your box must run the gauntlet before they are used. They are tested individually—then in relation to each other to determine the combination of properties that will insure maximum safety for your product . . . whatever it may be, wherever it may be shipped.

This comprehensive quality control program is just one part of Union-Camp's complete corrugated service available to all shippers. The service also includes box development and design—both construction and visual. It provides specifications control, art and merchandising counsel as well as a study of your packaging operation and many other features that can help you move and market your products more effectively, more economically. And it doesn't cost a penny extra.

Your Union-Camp man will be glad to give you full information. Case histories are on file that show what we have done for companies like yours. A note on your letterhead will bring a prompt reply.

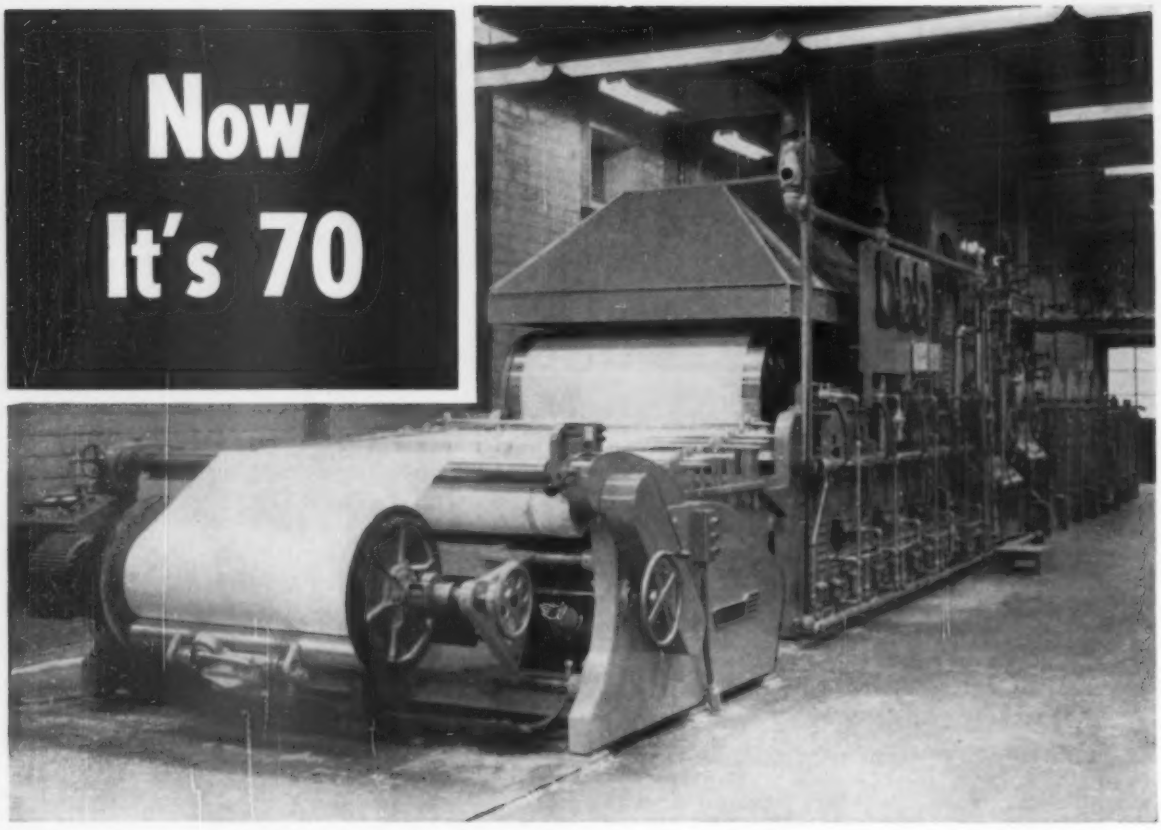
UNION-CAMP®

CORRUGATED BOXES

Union Bag-Camp Paper Corporation 233 Broadway N.Y. 7, N.Y.

Plants: Savannah, Georgia · Trenton, New Jersey · Chicago, Illinois · Lakeland, Florida · Spartanburg, South Carolina · Jamestown, North Carolina
Subsidiaries: Allied Container Corporation, Dedham, Massachusetts
The Eastern Box Company, Baltimore, Maryland.

Now It's 70



A Complete Cocker GH Slasher Installation

The Cocker GH Slasher

62 Cocker GH Slashers have been installed since the Greenville Exhibition. 8 more are on order. One mill ordered five more after the first installation met all of the exceptional claims Cocker had made for it.

The Cocker GH Slashers already in operation prove that this model is unquestionably in a class by itself . . . in production . . . in moisture regain . . . in size penetration . . . and in increased weave room efficiency and slasher operating efficiency — the World's most modern, most efficient, and most economical slasher.

Write for full information today.

Visit Cocker—Spaces 615 through 620 and 629 through 634 at the ATMA Exhibition

COCKER MACHINE & FOUNDRY COMPANY

IN CANADA: Contact W. S. Clark Montreal, Canada Oxford 7-2242

PLANT & OFFICES at Ranlo, N. C. **MAILING ADDRESS** Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

there's

NEW DIMENSION

to fabrics accented with gleaming

FAIRTEX® YARNS

Metallized and Foil Mylar* • Supported Metallics

Shining glints of FAIRTEX® Metallic Yarns bring out a new depth, a *new dimension* in fabrics . . . to highlight the beauty of color and texture, and make the fabric sell better.

Now in a wide range of style-wise colors, FAIRTEX® Foil, Butyrate, or Metallized Mylar* Yarns create new luxury and excitement for fabrics . . . to stop the eye and start the sale.

These soft, pliable yarns can be laundered, dry cleaned, or scoured with complete confidence. Because they never break, flake off, or tarnish, FAIRTEX® Yarns work easily in knitting or weaving . . . their beauty will outlast the fabric itself.

So, brighten your sales . . . add NEW DIMENSION to your fabrics with shining highlights of FAIRTEX® Metallic Yarns!

*DuPont TM

Add the glistening magic of FAIRTEX® Metallic Yarns to

Automobile Upholstery **Blankets and Bedspreads**

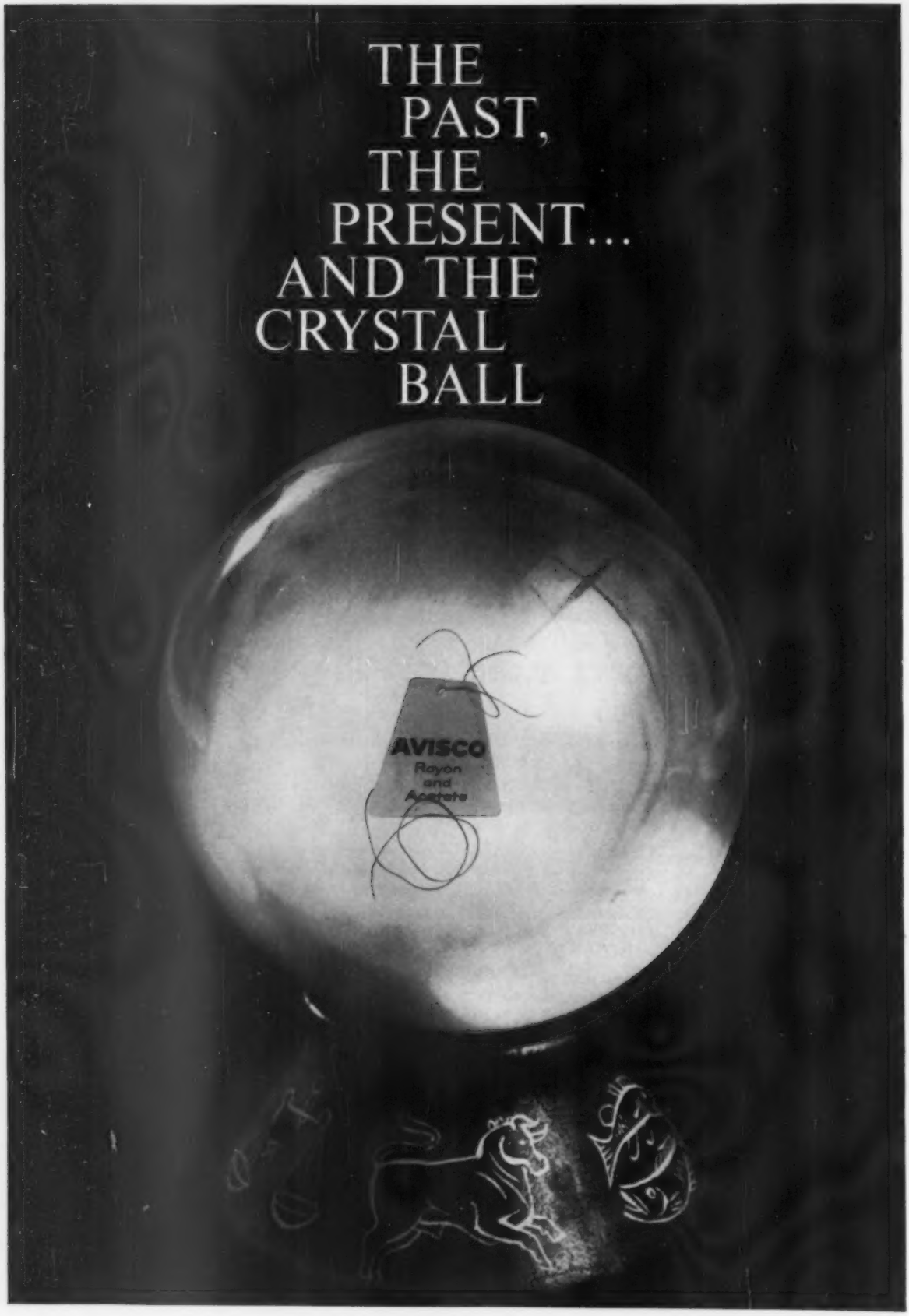
Apparel and Outerwear **Tablecloths and Towels**

Upholstery and Drapery Materials

...for lustre that lives...for the life of the fabric!

FAIRTEX CORPORATION, CHARLOTTE, N. C.

CHARLOTTE: LANIER BRANSON, JR. & J. E. MACDOUGALL, JR., 1808 LIBERTY LIFE BLDG. • NEW YORK: ROBERT NAPIER, 51 E. 42ND STREET • JENKINTOWN, PA.: WILLIAM A. POPP & ASSOCIATES, INC., THE BENSON-EAST • CHICAGO: WILLIAM NAPIER, 3555 PETERSON AVENUE • ATLANTA: ROBINSON TEXTILE CO., 3133 MAPLE DRIVE N. E.


THE
PAST,
THE
PRESENT...
AND THE
CRYSTAL
BALL
AVISCO
Rayon
and
Acetate

Fifty years ago, American Viscose Corporation became the first commercially successful rayon producer in the United States. While the yarn was brittle and weak by today's standards, and only 362,544 pounds of it were made the first year, the venture was a success from the start. We'd like to pause for a few moments at this—the beginning of our 50th Anniversary year—to name a few highlights in our progress which may be of special concern to you. The growth of Avisco rayon has outrun all expectations. There is now 8 times as much rayon used in blends as any other man-made fiber. And of this amount, Avisco rayon's share is well over 1000 times what we produced in our first year. Much of rayon's success can be credited to extensive research pin-pointed to engineer rayon and acetate fibers to fit specific end uses. **AVISCO ACETATE** was first used in apparel . . . crepe dresses, lingerie, linings. More recently, it has found a place in the home furnishings field especially for curtains and draperies. In 1959, American Viscose developed a new acetate fiber especially for draperies. Fiber 25, as it is known, gives additional bulk, a firmer, crisper hand, an iridescent luster and makes possible unusual textures. **AVICRON®** rayon, a latent crimped rayon filament yarn, has the unusual property, when relaxed, of drawing into a tighter curl with each washing. This phenomenon opens up a whole new world of texture possibilities. Avicron is now used principally for tufted bedspreads and accent rugs. **COTRON**[1] fabrics are made of cotton and Avisco rayon. The Avisco rayon in the blend adds to the cotton a luxury of hand and drape, and a clarity and brightness of color. **AVRON*** high strength rayon was announced only a few months ago, but is already being used extensively in apparel and home furnishings. 100% Avron or Avron in blends has a luxury hand and such strength as to make possible fine-count fabrics which will accept resin finishes. Avron is a major breakthrough in fibers, has important advantages, and is highly promotable. **SUPER L*** carpet rayon, the new Avisco smooth carpet fiber, is distinguished for its long wear and soil resistance. It can be blended with wool, nylon or acrylics. **COLORSPUN*** solution dyed fibers are popular for apparel, home furnishings, automotive and industrial products. American Viscose produces a complete line of Colorspun rayon filament yarns and staple fiber and Colorspun acetate filament yarns. **THE AVISCO INTEGRITY TAG** is awarded to fabrics made with Avisco rayon and acetate fibers, which, by virtue of their construction, fiber content, and performance, meet the quality control standards of the Avisco Integrity Program. It would be interesting to know what is ahead. What we can tell you, without benefit of crystal ball, is that our Research & Development people are working on many new fibers, as yet unnamed, which will be announced during this anniversary year.

AVISCO

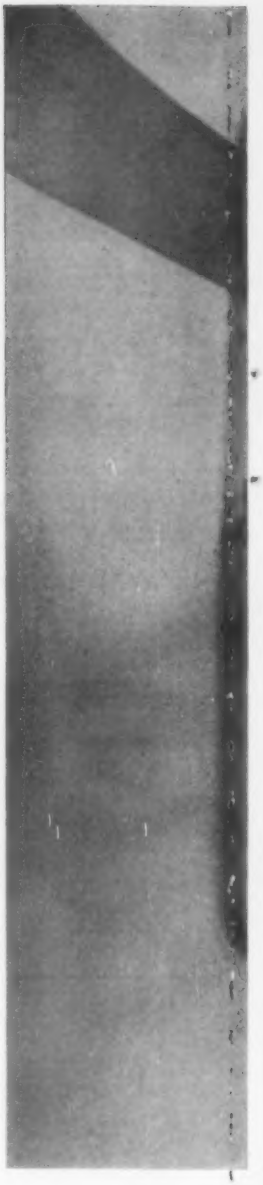
AVISCO®

Rayon • Acetate • Cellophane

[1] TM AVC for fabrics made of cotton and Avisco rayon
*Trademark of American Viscose Corporation
AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, New York

8 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL



This advertisement is the last in a series highlighting only a few of the really cogent reasons from a consumer standpoint for the success of Arnel triacetate. If you have worked with this fiber you are all too familiar with its adaptability and flexibility through all stages of fabric styling and construction. In the past months, we attempted to remind you of the particulars that the consumer has in mind when he or she buys something made with Arnel.

Not the least of these in this appliance-minded age is TUMBLE DRYING. With Arnel the consumer is assured of satisfaction on this score because:

1. Arnel is naturally very fast drying. It is a hydrophobic fiber.
2. Under the physical conditions found in a tumble dryer, fabrics made with Arnel are extremely resistant to wrinkling and mussing. Remember, under normal conditions, Arnel absorbs only 3.2% moisture.
3. None of Arnel's "ease-of-care" characteristics are at the expense of the other qualities. Fabrics made with Arnel have a desirable hand, beauty and drapeability.
4. All fabrics carrying the official Arnel symbol have been pre-tested for performance claimed—including tumble drying. (Tests are conducted free of charge by the Celanese Fibers Co.).

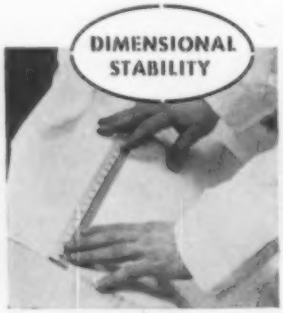
So, take advantage of the great consumer acceptance of Arnel. Let Celanese work with you to develop new Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Fibers Company, a division of Celanese Corporation of America, Box 1414, Charlotte, N. C.

Celanese® Arnel®

District Sales Offices: 180 Madison Ave., New York 16, N. Y.; Room 10-1414 Merchandise Mart, Chicago 54, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3131 Maple Drive N. E., Atlanta 5, Ga.

Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.

In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec



Arnel . . . a

ARNEL®

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

CIRCLE 133 ON READER SERVICE CARD 133

Let Enka tag you for big profits!

Hangtags are good salesmen and Enka has the fastest growing hangtag program in the industry.

Page after page of Enka advertising in fashion magazines and newspaper supplements, in general and trade publications, build consumer and buyer recognition for Enka fibers and yarns.

Distinctive hangtags help crystallize Enka's powerful advertising into buying action at the point-of-purchase. This buying action means bigger profits for you.

The Enka hangtag is your "salesman on a string". Use him. Get the complete story on Enka active, aggressive new Customer Service Program—featuring national advertising, in-store merchandising and publicity by calling OXford 7-6141, Ext. 40 or contact the Enka sales office nearest you.

American Enka Corporation, 530 Fifth Avenue, New York 36, N. Y. • New York • Chattanooga • Greensboro • Providence • Producer of rayon • nylon • yarns • fibers

New Name for Fiber 40

American Viscose Corp. is using the trademark Avril to identify its cellulosic fiber formerly known as Fiber 40. The company also announced that the fiber will be in commercial production by midsummer.

The name Avril will be confined to fabrics made of this fiber, either 100% or in blends, that meet the company's standards of quality control.

Dow To Produce Nylon 6

Dow Chemical Co.'s James River Div. will start construction this month on a new multimillion-dollar plant to manufacture nylon 6. Completion is scheduled for late in 1961.

The new plant will have an initial capacity of 12-million lbs. per year of filament yarn primarily for use in tire manufacturing.

Du Pont Names New Nylon

Antron is the trademark Du Pont has adopted for its new type of nylon fiber with a tri-lobal cross section.

When the new yarn was introduced last December, it was described as a non-round cross-section multifilament. Patents covering the new type of nylon have been applied for.

Martex's New Bath Rugs

The Martex Div. of Wellington Sears Co. introduced a large group of bath rugs and bath mats in conjunction with its towel collection for 1960.

A luxury rug measuring 21x36 ins. and made of Creslan and Dynel featured a four-color stripe. The rug wholesales at $7.60. It is available in color combinations of Blue Mist, Fawn, Lemon Ice, Island Green, and Rosebud. The same colors are featured in the company's new line of towels.

Another bath rug of Creslan and Dynel is available in 22 colors and a large variety of shapes and sizes. The wholesale price for the 24x36-in. size is $4.70.

Other bath rugs in cotton were shown in a solid-color range coordinated with the company's towel and shower-curtain lines.

New Cotton Textured Fabric

Indian Head Mills, Inc., has introduced its first textured fabric, Ming-Lin. It is 100% cotton and has a shantung-like look.

The new fabric is washable, drip-dry, crease resistant, colorfast, and preshrunk. It bears the company's guarantee on shrinkage and colorfastness.

The initial color line includes basics as well as three or four high-fashion shades. Additional colors will be offered later for fall and winter.

Ming-Lin is available in 35- to 36-in. widths and is offered for over-the-counter and cutting sales.

New Grosgrain Ribbon

Burlington Ribbon Mills announced last month a completely colorfast and washable grosgrain ribbon that can be ironed at any heat.

Burlington's grosgrain is woven of rayon and cotton. It is available at most chain variety stores.

New Fabric of Ban-Lon

Joseph Bancroft & Sons Co. is marketing a new fabric in the Ban-Lon family. It is of warp-knit construction of permanently crimped Textralized yarn.

Fabrics of the new construction have a silky hand and good drapeability. They are resistant to wrinkling and stretching and can be washed by hand or machine without loss of appearance or hand.

Several dress and blouse manufacturers are using the new fabric in their spring lines, but the major emphasis will be placed on the fall market.

Meraklon Comes To U. S.

Montecatini is bringing isotactic polypropylene fibers to the United States in sample quantities. The fiber is being marketed in Italy under the trade name Meraklon.

The fiber is being introduced in limited quantities in this country for use in carpets and rugs, upholstery fabrics, blankets, overcoats, suiting, and other woven and knitted fabrics.

The price for the imported material delivered in the United States will be about 90¢ per lb. for the natural staple.

Vinyl-Fabrics Survey

Shipments of vinyl-coated fabrics in 1959 showed an increase of 23% over 1958. A total of 94,859,800 linear yards was shipped in 1959 compared to 76,925,300 in 1958.

The figures represent information supplied by 20 firms participating in the statistical program conducted by the Vinyl Fabrics Institute.

The statistical program also showed that shipments of pyroxylin-coated fabrics declined 3% in 1959 compared to 1958 and shipments of unsupported vinyl sheeting showed a decline of 10% in 1959.

Carter Brothers' New Carpet

Carter Brothers is offering its first nonwool carpet. The carpet is woven of textured Caprolan.

Two qualities are available. Radiant is a cut pile with a tone-on-tone, mottled-surface effect. Crest is a loop-pile carpet also in a mottled-surface effect.

Both carpets are available in 32 different color combinations. They are also offered in custom widths and custom-dyed colors.

Reeves' New Bondyne

Reeves Brothers, Inc., has introduced a new Bondyne fabric called Cordyne. It is a fine-wale Bedford-cord fabric blended of rayon, acetate, and Dynel.

Cordyne is being offered in a wide range of staple mixture shades and new multicolor effects.

New Acrilan-Rayon Fabric

The Textile Div. of U. S. Rubber Co. is weaving a new yarn-dyed apparel fabric for Fabrex called Conquest.

It is a blend of 50% Acrilan and 50% rayon.

Nylon 6,6 Expansion

Chemstrand Corp. announced last month a multimillion-dollar expansion for production of nylon 6,6 tire and carpet yarns and yarns for industrial uses.

The expansion will increase capacity by more than 50%.

At the Paris Collections

PARIS—The U. S. textile man won't be too happy with the new spring and summer styles designers showed here last month.

Sleeves have been banished. Skirts are skimpy and knee-length. Coats often stop short between knee and calf. The only relief in fabric austerity is that there are pleats everywhere and a few longer suit jackets.

Spring suits are made of soft, lightweight woolens, some even unstiffened and unlined. Under the jackets are long silk overblouses. Favorite suit fabrics are glen plaids, pale-checked woolens, flannels, and cheviots. Coats have either tiny upright collars, or none at all.

Daytime dresses are in light wool or in plain or printed shantung, twill, surah, or crepe. For after dark, designers used a complete range of luxury fabrics, from printed or solid-colored organzas to lamé, and from chiffon, lace, and tulle to satin.

Colors are fresh and clear—a sharp contrast to the less vibrant tones of last fall's collections. Pinks, blues, greens, oranges, violets, and yellows predominate. Bright red, especially for coats, appears in most collections. The old spring standbys, beige and navy blue, are seen everywhere, together with white and black. Brown lingers on from the fall collections in some houses.

Although these general trends were apparent in a collective view of the shows, emphasis varied with each designer.

New Electric Blanket

Northern Electric Co. has introduced a new automatic-electric blanket called the Challenger. The new blanket is made of a blend of cotton, rayon, and Acrilan.

It is offered in pink, blue, biege, flame, and pastel green. The single-bed size retails for $17.95; double with single control, $19.95, and with dual control, $24.95; and the king-size blanket for $49.95.

Star Woolen's New Batting

Star Woolen Co. is manufacturing a resin-bonded batting of 100% Dacron Fiberfill called Da-Bon-Air.

The new batting weighs 1½ oz. per sq. yd., and its high loft remains through repeated machine washings. Da-Bon-Air is being used in popular-priced quilted robes and house coats.

All-Dacron Fire Hoses

Eureka Fire Hose Div., U. S. Rubber Co., is now offering both its multiple-woven hose and its double-jacketed line in 100% Dacron.

Both hoses are offered in diameters from 1½ to 6 in., in lengths of 50, 75, and 100 ft. They are able to withstand pressures up to 600 psi.

The double-jacketed hose is marketed under the name Super Safety and the multiple-woven hose under the name Super Paragon.

Nylon Chamber for Helium

A fabric of Du Pont nylon coated on both sides with Hypalon synthetic rubber was used in the construction of a double-walled helium-recovery chamber in Cornell Aeronautical Laboratory's space-research program.

The helium passes from the receiving chamber into the 5,000-cu.-ft. fabric structure, from which it can be pumped easily into storage tanks.

Pepperell's New Wales

Pepperell Mfg. Co. has announced a new 12-wale in its combed fabrics and a 13-wale in its carded fabrics geared to the new bulky look in fall men's wear.

The new wale fabrics come in the Chartered wash-and-wear line with the Scotchgard finish and Sanforized Plus.

New Sisal Rope

Columbian Rope Co. is now merchandising a newly developed Yacht Sisalana rope that the company says is 20% stronger than previous sisal rope.

The breaking strength in lbs. of the sisal rope varies from 450 to 5,400 and its working strength from 90 to 1080 lbs.

It will retail at about 71¢ per lb. in the ¼-in. size. It is also available in sizes up to and including the ¾-in. size.

Cannon's New Towel Package

Cannon Mills Co. is packaging its towel sets in cartons with a gift-wrapped look.

Both cover and carton have feminine designs letterpress printed on news back board laminated to shiny gold-aluminum foil.

New Boys' Socks

Jerks Socks-Wovenright's new spring line of boys' socks features many styles in golden shades.

The new line of 75 different styles ranges in price from 39¢ to $1 retail. Orlon, Ban-Lon, stretch nylon, combed cotton, Orlon blends, and cotton-and-stretch-nylon blends are represented. Stretch socks retailing at 49¢ are new to the line.

TOUGH YARNS FOR TOUGH JOBS...

Capt. Thomas Latta, American Airlines Jet Powered Electra

...SEAT BELTS, for example

The latest jet airliner, the family car, or the cab of a heavy-duty tractor . . . where comfort and safety are prime considerations . . . you'll find seat belts of Caprolan nylon heavy yarns on the job—*doing* the job. In fact, about 80% of all nylon and nylon combination seat belt webbings made today are made of these new yarns.

Caprolan heavy yarns are a completely new class of exceptionally durable textile materials developed by Allied Chemical. Their excellent dyeability (1½-minute cycles) has made these yarns ideally suited to areas where superior color performance is required—seat belts and upholstery to complement today's high-styled automobile and airplane interiors, carpeting, home furnishings fabrics, and industrial color coding, to name a few.

In addition, Caprolan heavy yarns are now included in U.S. Navy specifications for marine rope and are enjoying increasing use in fire hose, conveyor belts, load stabilizers, industrial fabrics, and dozens of other end-uses where toughness, strength and flexibility are essential.

If you have a tough job, we have the tough yarn for it. If you wish to improve an existing product, or create a new one, our technical service, end-use development and fiber application staffs are ready to help you.

Allied Chemical

Fiber Marketing Dept., 261 Madison Ave., New York 16, N.Y.

caprolan®

THE NYLON FIBER BY ALLIED CHEMICAL

CIRCLE 137 ON READER SERVICE CARD

Look to your AIM*...Weiner and Bauer, Inc. did...

Steel Strapping Machine speeds cloth packaging

WEINER AND BAUER, INC. OF NEW YORK CITY, liked what they saw at a textile trade show, where an Acme Steel F1 Strapping Machine went through its paces. Could it speed packaging and shipping of their finished cloth? They called in their Acme Idea Man.

Speed packaging it did. (Idea No. S5-13). The high-volume F1 machine tensions, cuts off strap and welds ends automatically by finger-tip control. Result: their shipping crew now handles surge loads from all departments without becoming overtaxed. And there's a bonus in protection against pilferage, since the welded strap joints cannot be duplicated without the F1 machine.

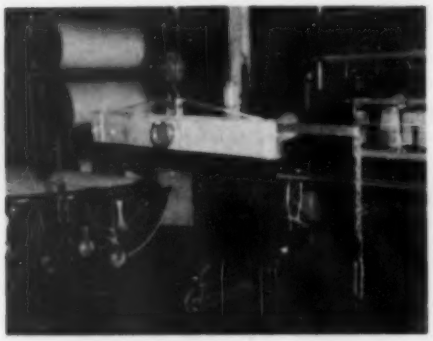
Acme Idea Man Gordon Hurlburt helped work out the answer to this packaging problem.

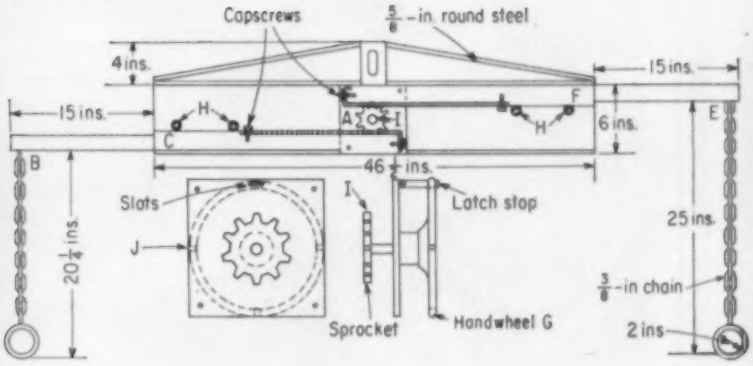
Ask your Acme Idea Man to show you the new 10 minute movie on this equipment.

***Look to your Acme Idea Man** for an assist with your packaging and handling problems. Or write Dept. TAS-30, Acme Steel Products Division, Acme Steel Company, Chicago 27, Ill. In Canada, Acme Steel Company of Canada, Limited, 743 Warden Avenue, Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**

Slasher-Hoist Attachment Moves Beams of Any Width





In our mill, we have several types of looms that use yarn beams from 46 to 78 ins. wide. Consequently, there's a problem at the slasher in doffing so many widths of beams even though all beams are doffed with an overhead materials-handling system.

The singletree shown in the photograph lets us lift any width warp beam with very little work. When we turn the handwheel at the center of the singletree, the arms at each end move in or out to position the chains at the desired width.

Specifications for the attachment as shown in the sketch are:

Handwheel *G* has four slots and a latch for stops; the handwheel is turned by hand to space the rings on the ends of the chains at the correct position over the ends of the beam journals. Then the handwheel is locked in this position by the small latch at the top of the handwheel.

Bars *B* and *E* are 1½-in. square steel stock. Each bar has a piece of ¾-in.-pitch roll chain fastened to its top with capscrews. A 10-tooth ¾-in.-pitch sprocket, *I*, is fastened to the handwheel by a shaft.

As the handwheel is turned, the sprocket moves the chain to oscillate bars *B* and *E* in or out as desired. The positions *C* and *F* show the bars set for the shortest beam used.

This mechanism is enclosed in a box welded together from ¼x6-in. flat iron on the back and front and ¼x2-in. flat iron on the top and bottom. Parts marked *H* are four pieces of 1-in. pipe bolted through the housing to act as rollers to hold bars *B* and *E* in position.

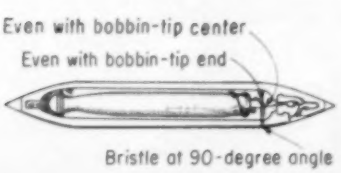
The handwheel assembly is keyed together on a shaft inserted through plate *J*, which is a steel plate ¼ in. thick and 6 ins. square. This plate has four slots for stops for the handwheel latch. The plate is bolted to the welded housing at *A*.

A welded steel hanger at the top is supported by two ⅝-in. round steel rods. A hook for the overhead hoist fits into the hanger to lift the beam. (K-103) *G. B. West, Spartanburg, S. C.*

One Bristle in Loom Shuttle Controls Filling Tension

In our mill, we weave upholstery fabrics from yarn as fine as 70-den. rayon and 2/60s cotton to as coarse as 900-den. rayon and 4/2s cotton. We also use a lot of novelty yarns.

Until recently we always had trouble with filling threading in the eye of the shuttle at bobbin transfers. The strand of yarn going into the shuttle from the magazine broke excessively.



We formerly ran our shuttles in this way: (1) with fur in the front and back walls of the shuttle, (2) placed one bristle over the bobbin ¼ in. from the tip at the front of the shuttle at a 20° angle from back to front, and (3) placed a second corresponding bristle under the shuttle tip at the back.

But we now use one bristle as shown in the accompanying sketch. This bristle is at a 90° angle in the front wall of the shuttle. It slightly touches the tip of the bobbin and reaches exactly to the center of the tip.

Results with this new method are (1) 50% of transfer filling breaks were eliminated, (2) the bristle keeps the yarn from unthreading from the shuttle eye, (3) the amount of tension is adjusted by the size of the bristle, (4) tension is constant from full to empty bobbin, and (5) if the bobbin transfers one or two rings of the bobbin forward in the shuttle, the filling breaks and the weaver can flag the loom so that it can be fixed before a break-out is made. (K-199) *Albert Czarnecki, Burlington, N. J.*

$500 PRIZE WINNER

Lawrence Koch, knitting-room foreman of Comal Hosiery Mills, Inc., New Braunfels, Texas, has received $500 as the 1959 annual prize in TEXTILE WORLD's Kink Contest. His winning Kink, "Lockstitch Lever Keeps Welt End from Unraveling," appeared in the August 1959 issue.

Mr. Koch, known to his friends as "Cookie," has been associated with Comal since the company was organized. Except for his service in the U. S. Navy during World War II, he has been in the manufacturing end of full-fashioned hosiery since 1938.

"I have been a reader of TEXTILE WORLD for a number of years," says Mr. Koch, "and have always been interested in the Kinks and Short-Cuts published in it. I have found them helpful on many occasions, and I hope that I can write more Kinks that will be equally helpful to other readers."

Piece of Twine Corrects Quiller Tension

In quilling fine-denier crepe yarns on Whitin quillers, we used to have trouble when transfers were made. Excessive pull on the yarn by the thread catch finger caused many of the ends to break.

The trouble was stopped by installing a simple automatic tension let-off made from a 3-ft. length of strong twine. One end is fastened to the magazine swing arm and the other is carried up and over one of the creel rods, where it is held in proper position by a wire guide taped to the rod.

The twine then goes to the Kidde tension-compensator control arm, where it is tied at the mounted end. When the unit transfers, the twine pulls the tension arm down against the stop and eliminates all tension on the yarn. Tension is restored when the swing arm comes up again. (K-246) *Merle J. Snader, New Holland, Pa.*

Tool Makes Useful Containers From Discarded Tin Cans

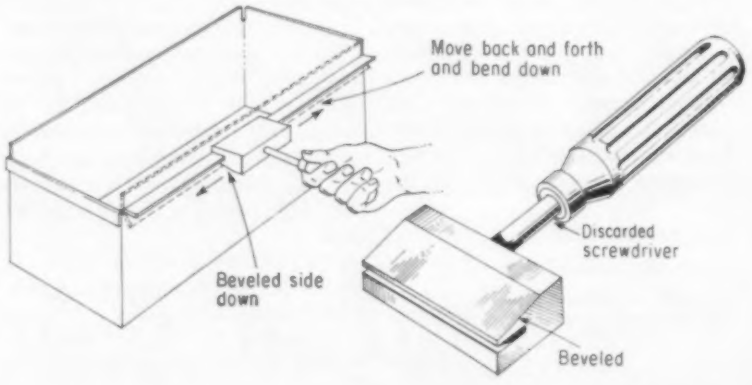
Square or rectangular cans can be made into useful containers if you fold their edges with the tool shown in the accompanying sketch. The tool head is made from a piece of rectangular steel 2 ins. long, 1 in. wide, and ½ in. thick.

One side of the 1-in. surface is beveled to three-quarters of its width. Then a lengthwise cut is made with a hacksaw at the edge of the bevel.

A hole is bored in the center of the opposite side for a handle; a screwdriver makes a good handle.

A can to be bent is slotted 1 in. at each corner. Then the tool is moved back and forth along each side of the can to bend the edge downward. Finally the surface is firmly seated with a rubber hammer.

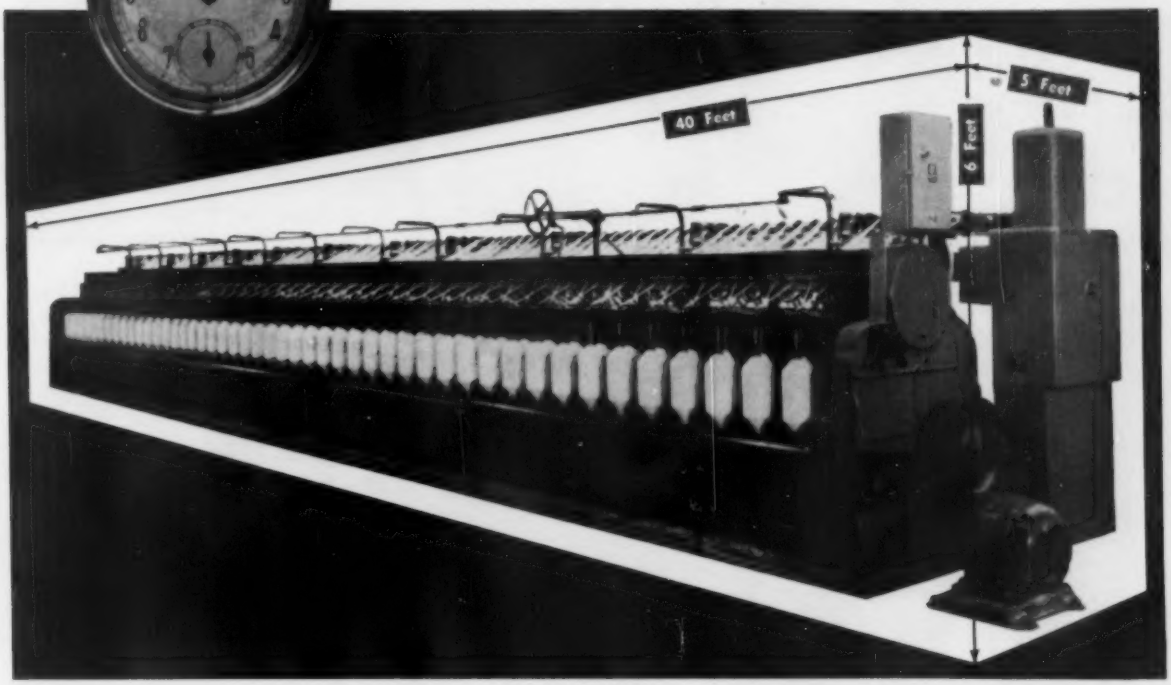
Containers made in this way are useful for small-parts storage and for small articles being made in the mill machine shop. They are light in weight and can be used safely. (K-112) *Charles H. Willey, Penacook, N. H.*



EVERY MINUTE PNEUMASTOP FILTERS

1200 CUBIC FEET OF AIR

AROUND EACH ROVING FRAME!



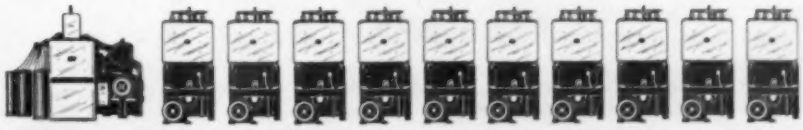
1200 cubic feet of air is enough air to totally engulf an entire roving frame!

PNEUMASTOP suction cleaning combined with a modern traveling blower system is rapidly becoming the accepted way of keeping roving frames clean. The blower suspends lint in the air and PNEUMASTOP removes this lint with its high capacity filtering unit.

Exhaustive ends down tests (in spinning) comparing "PNEUMASTOP Quality Roving" with ordinary roving prove that savings in spinning costs alone will pay two-thirds of PNEUMASTOP'S cost in just one year!

In addition to this, PNEUMASTOP'S dual stop motion with its exclusive features allow roving tenders to handle more frames than with any other stop motion.

Remember this!



One set of PNEUMASTOP improves the running quality of ten spinning frames in the average mill.

For more information please contact . . .

PNEUMAFIL CORPORATION

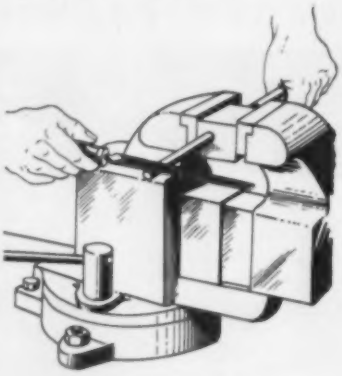
CHARLOTTE 8, NORTH CAROLINA

Steel Block in a Vise Helps Finish Ends of Steel Stock

When you need to finish the ends of only a few pieces of round steel stock and don't want to set up a lathe especially for this job, you can finish the rods easily by hand.

Use a block of steel 2 ins. square. Drill a ¾-in. hole in the center of one side. Tighten this block in a vise with the hole horizontal.

Insert a piece of stock to be finished in the hole. Turn the rod with your left hand as you file one end with your right hand. Then reverse the rod if you want to finish it on the other end. (K-236)



Wheel Scraper Keeps Doff Trucks Rolling

Lint and waste used to collect on the wheels of our doff trucks and wind around the axles. Eventually, the trucks would become hard to push and sometimes the wheels would lock and drag on the floor.

We stopped this trouble by fastening pieces of zinc to the truck frame on either side of each wheel so that the edge of the metal rubs constantly against the tread of the wheel. This rubbing action scrapes off all waste and keeps the truck "free-wheeling" at all times. (K-234) *Raynold Labbe, Biddeford, Me.*

Coarse Ends in Warper Beams Weave Two Separate Fabrics

On our wider looms 56 to 72 ins. wide, we often weave more than one narrow separate piece of fabric 27 to 33 ins. wide. To separate these narrow fabrics, we add four coarser ends at the slasher of, say, 2/30s, 4/40s, or 3/30s.

These ends are added to the loom yarn beam from a special wooden creel at the slasher headstock. Then the ends wind around the center of the loom beam.

But this method has these disadvantages:

1. There's uneven tension on the yarn from winding from a separate beam, which causes shuttle breakouts, warp floats, broken shuttles, and trapped shuttles in weaving.

2. Sometimes one of these ends is broken and runs a long time before the slasher operator catches it.

3. When one of the ends breaks, it often tangles and breaks the finer warp ends.

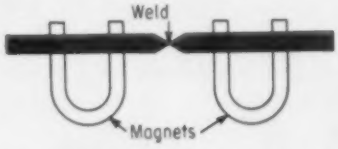
Recently, we've developed a better method of putting these coarse warp ends in a loom beam. We now put them in at the warper.

To have the coarse ends lie perfectly in the same plane with the finer warp ends, we leave several dents empty in the center of the warper comb. Then we run the coarse ends in some of the vacant center dents and wind all the warp yarn together on the section beam.

The extra space in the combs on each side of the coarse ends gives these ends plenty of room in the section beam.

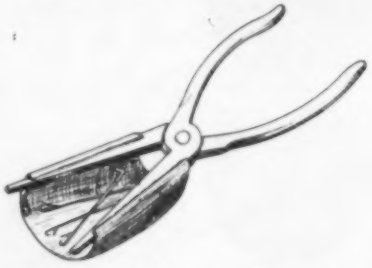
This method has eliminated all the trouble we formerly had in slashing and weaving and has added only a little extra work in warping. (K-3335) *K. H. Shah, Ahmedabad, India*

Magnets Hold Parts To Be Welded



Here's a simple but good way to hold two small metal parts to be welded together. Just lay each of the parts on a magnet with the ends to be welded touching. The parts can be turned easily to weld them on all sides, yet they are held firmly. (K-190) *M. D. Rutledge in The Lincoln Stabilizer*

Bag on Pliers Keeps Needles off Floor



When our knitting-machine fixers remove bad needles from the machines, the special pliers shown in the sketch keep the needles off the floor.

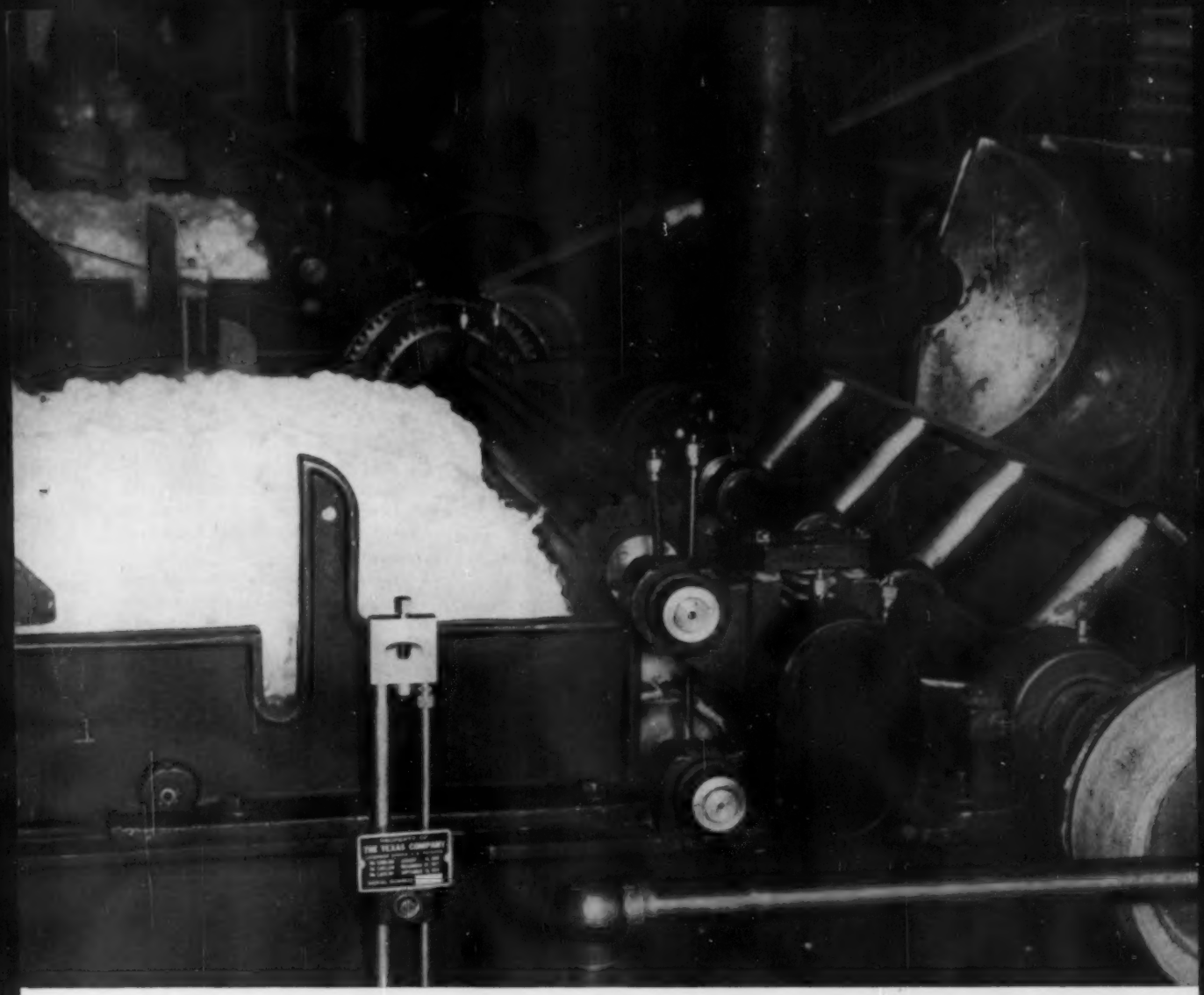
The bag, made of light leather or plastic, can be riveted or cemented to the pliers about ½ in. back from the ends of the jaws. (K-208)

$25 KINK WINNER

The $25 prize for the best Kink in January was won by:

Raynold Labbe, Biddeford, Me., for his Kink "Altered Knock-Off Case Shows Loom Stop Motion Out of Fix."

WATCH FOR NEXT MONTH'S WINNER



IF YOU WANT TO BE CONVINCED ABOUT THE EFFECTIVENESS OF COTTON CONDITIONING COMPOUNDS...

Here are the proven benefits of Texspray

Yarn is smoother. Texaco Texspray Compound increases fiber flexibility by replacing natural oils; so fibers draft more easily and uniformly, with fewer ends down.

Staple is longer. Texspray conditioning produces a larger percentage of long fibers . . . preserves them against breakage in later manufacture.

Static electricity is sharply reduced. And, in addition, Texspray practically eliminates fly and dust—often by more than 75%!

Finishing is unaffected. Texspray is completely removed in the preparatory wash. Grey goods can be dyed or printed without altering color values.

Let a Texaco Lubrication Engineer show you where Texspray fits best into your operation. He will be glad to analyze your requirements, make complete recommendations. Just call the nearest of the more than 2300 Texaco Distributing Plants, or write Texaco Inc., 135 East 42nd Street, New York 17, New York.

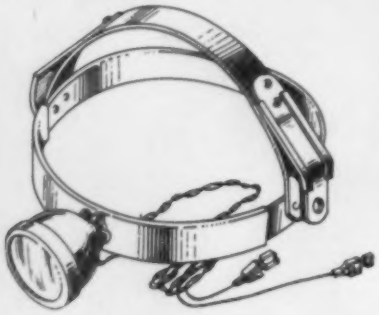
Tune In: Texaco Huntley-Brinkley Report, Mon. Through Fri.-NBC-TV

TEXACO

Throughout the United States
Canada • Latin America • West Africa

CIRCLE 143 ON READER SERVICE CARD

Homemade 12-V. Lamp Shows Cloth Defects on Wool Looms



We inspect the cloth on our wool looms two to four times each shift. And for this inspection, we use a special lamp.

The lamp is made from a headgear and a battery lantern assembled as shown in the accompanying sketch. All of the lantern is discarded except the lamp head, which is riveted to the headgear.

In the lamp, we use a 12-v. 30 ft.-c. bulb made for an automobile. About 20 ft. of two-strand lightweight wire is attached to the lamp. The other end of one of the wires is fastened to the energized wire of the loom 12-v. stop-motion wiring system, and the other wire is grounded to the loom. Both of these wires have alligator clips for quick fastening.

The clear glass lens of the lamp is replaced with a frosted lens for greater diffusion of light.

The cloth inspector places the headgear on his head; and in this way, the light always shines where he is looking and both hands are free to pull the cord along and feel the cloth for defects. The swivel base lets him adjust the light beam where it's needed.

On dark shades, this lamp is particularly useful. Many fabrics are woven with the cloth face downward, and the only place the face can be examined is at the roll of cloth that's winding up. Since the cloth roll is shaded by the loom, there's little available light here. But the lamp shows all defects plainly. (K-3937) *Leslie Hayter, Huntingdon, Que.*

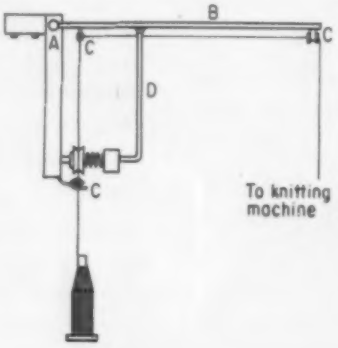
Here's An Easy Way To Make a Tension Compensator

Uneven tension used to cause many imperfections in our knitted fabric. We wanted to install individual tension compensators, but at the time could not afford to buy them. So we built a simple tension device that does the job well. Here's how to make the tension:

Attach moving lever *B* to bracket *A* with a swing bolt. Then fasten thread guides *C* to the end of the moving lever and at the bottom of the bracket.

Attach L-shape rod *D* to the moving lever at a point about one-third of the distance from the swing bolt. Finally, place a set of regular tension disks and a spring on the end of rod *D*.

Yarn passes through the guide at the bottom of the bracket, through the tension disks, and through an eyelet attached to the moving lever. The mechanism keeps the yarn straight and maintains even tension at all times. (K-3484)



Motorcycle Seats on Stands Make Comfortable Stools

Many of our employees constantly sit on stools or chairs to do their work, but sitting in a constant position in the same chair becomes uncomfortable. To enable employees to occasionally change their positions during the day, we've made several special stools.

We bought several light single-passenger motorcycle seats and mounted them for stools. Some are mounted on revolving stands, and others are mounted on rod frames on wheels so that they can be moved around with ease.

These stools look a little odd in a textile mill, but they relieve our workers of discomfort and consequently production has been increased. (K-3864) *Edmund Elizondo Solis, Guadalajara, Galisco, Mexico*

Pattern-Chain-Link Tool Removes Loom Chains Quickly

Wooden pattern-chain links on dobby looms are hard to open at the loom when the chain is replaced or a broken bar is replaced. Loomfixers usually use a small screwdriver to open the links, but it often misaligns the links.

Here's a little tool you can carry in your shirt pocket that does this job effectively. It is made from $\frac{3}{16}$-in.-dia. steel rod bent as shown in the accompanying sketch. The straight end is then shaped like a screwdriver blade and is heat treated to temper it.

When you need to remove a chain link, insert the sharp end of the tool into the link and give the handle a quick twist. Because there's plenty of leverage on the wide handle, the link is spread evenly.

A longer tool made in the same way speeds up pattern-chain building because it opens the links much more rapidly than a screwdriver. (K-105)

– outlasts other roll covers 100% in most cases

–25% longer life between grindings reported by users

SEALSKIN®

SLASHER ROLLS for uniform sizing

• *Bulletin S gives complete SEALSKIN application information.*

developed and production-proved by

STOWE-WOODWARD, INC.

Newton Upper Falls, Mass.

Neenah, Wisconsin

Griffin, Georgia

On the West Coast • HUNTINGTON RUBBER MILLS, INC. — Seattle, Washington • Portland, Oregon • Port Coquitlam, British Columbia, Canada

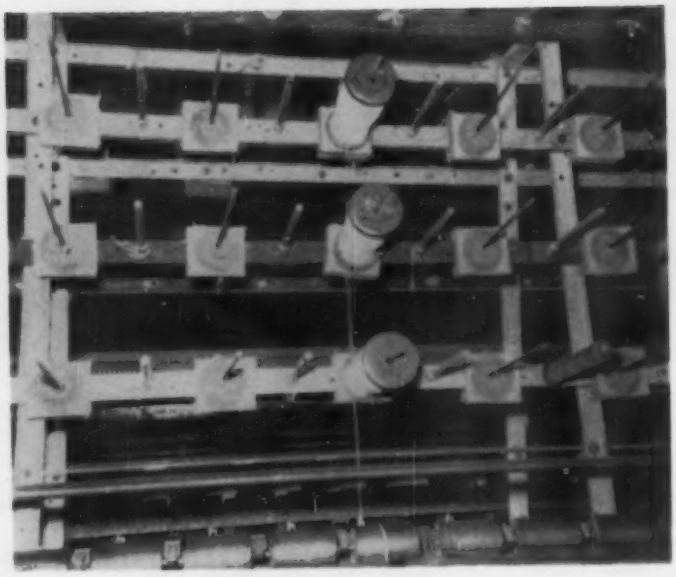
"How to Get Longer Life from a Rubber Covered Roll" — will be sent to you upon request.

Wooden Blocks Improve Tension at Twister

We used to have trouble in keeping the right amount of tension on spools in our twister creels. This condition was particularly troublesome when we were making cable or hawser cord. Very often the first ply would kink and cause an uneven finished product.

We made a friction tension by cutting 2x4-in. lumber into 4-in. squares and grooving one side to fit the twister slots. A hole was bored through the center to fit the spindle, and the smooth side was covered with clearer cloth.

The blocks are slipped over the spindle with the cloth on the outside or next to the spool head. Friction of the cloth against the spool gives just the right amount of tension and keeps it even at all times. Tension can be varied by tilting the slats up or down.



The arrangement cut our seconds to zero on this type of twisting. When the blocks are not needed, they can be easily removed and stored. (K-247)

Kirby A. Wright, Edenton, N. C.

Regular Loom-Stop Checks Improve Loom Efficiency

When weave-room efficiency is low, we have our supervisors make a check every 2 hrs. to see how many looms are stopped and why they are stopped. As a result, the supervisors can take immediate action to have the looms restarted.

The accompanying table is a sample check for a part of one shift of operation on 200 looms for one supervisor. Jobs on other shifts are laid out in the same way. (K-253)

	Number of loom stopped for						
Time of check	Loomfixers	Pick-outs	Weavers	Smash hand	Warp-outs	Total	Efficiency (%)
10 a.m.	5	2	4	1	1	13	93 1/2
12 noon	2	0	7	2	1	12	94
2 p.m.	4	2	6	3	2	17	91 1/5

$500 FOR BEST KINK IN 1960

$25 for Best Kink Each Month—Plus $5 to $10 for Every Kink Accepted

A KINK . . . is any idea that will cut costs, improve quality, reduce work, increase production, or make work easier.

You can send in as many Kinks as you want to in any month.

All Kinks are paid for on acceptance.

Previously published Kinks are not eligible for prizes.

Let us know if you don't want your name published.

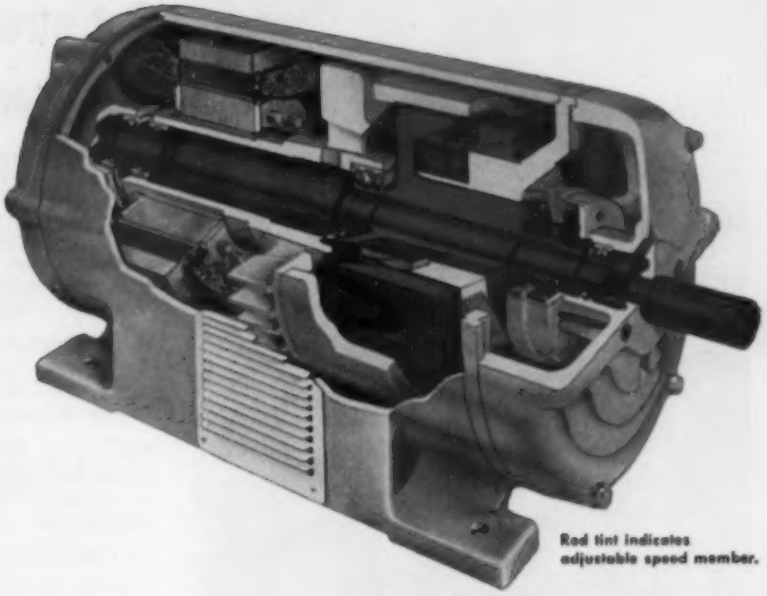
Prize winners are selected by TEXTILE WORLD readers and editors. At least 300 readers will be asked each month to help the editors select the best Kink that month. In case of ties, duplicate prizes will be paid.

Send Kinks to:
Kinks Contest, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

THIS NEW QUILL-TYPE AJUSTO-SPEDE® DRIVE

Plus

THIS NEW K-2 CONTROL and PUSH-BUTTON STATION



Rod tint indicates adjustable speed member.

Give You Controlled Adjustable Speed from an AC Power Source

in a Compact, Low Cost 3-Unit Drive Package by

DYNAMATIC

PIONEER IN EDDY-CURRENT EQUIPMENT

Three compact components, the Ajusto-Spede Drive, the K-2 Control, and the push-button station make up this complete drive package which provides controlled adjustable speeds for any application from ½ HP through 7½ HP at 1800 RPM.

Remote wall mounting of the control panel conserves space on the driven machine; the push-button station places vital controls at the operator's finger tips.

Standard control features include on-off clutch control, infinite speed adjustment, constant speed regulation, and jogging. Any of a variety of special features may be easily and economically added to the standard control by the installation of a single resin-encapsulated circuit.

Send for complete information covering design and operation of the new models ACM-903 and 904 Ajusto-Spede Drives. Read how the new K-2 Control provides infinite speed adjustment, on-off clutch control, constant speed control, jogging, threading, cascading, and acceleration control.

Our New Bulletin K-2-159 is Now Available.

EATON

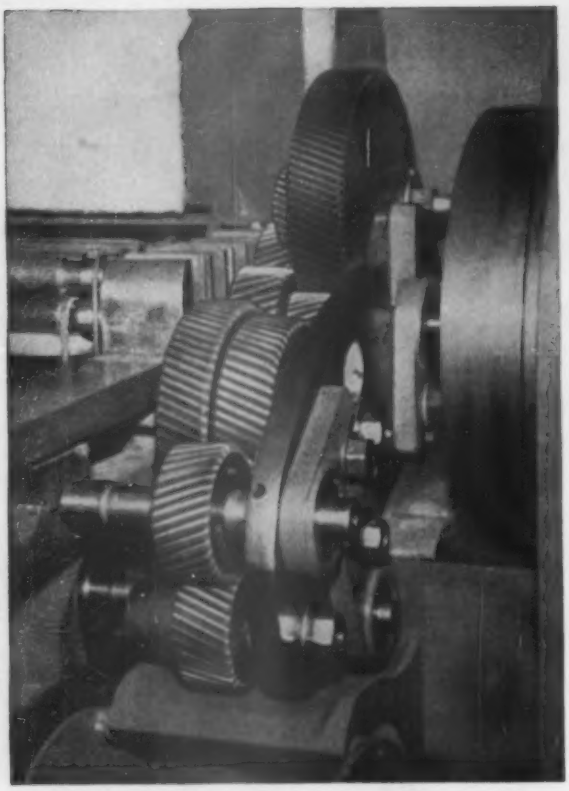
DYNAMATIC DIVISION

MANUFACTURING COMPANY

3307 FOURTEENTH AVENUE • KENOSHA, WISCONSIN

CIRCLE 147 ON READER SERVICE CARD 147

Put strength, long life, silence into gears, couplings, loom parts with C D F Celoron® plastic



CELORON-TO-CELORON GEARS in drawing rolls made by Ideal Industries, Inc., Bessemer City, N. C. These are helical-cut gears—the toughest to machine, requiring the toughest material. Celoron is it. Other Celoron parts for this application are shown below, top right.

WORK MIRACLES IN TEXTILE MACHINERY—with this amazing golden plastic material! Celoron gears help eliminate noise, reduce wear on mating metal gears; and even the roughest-used helicals last . . . and last . . . and last.

HIGH MECHANICAL STRENGTH. Typical Celoron strengths: tensile, 6,500 psi; flexural, 10,000 psi; compressive, 25,000 psi; shear, 8,500 psi. Dimensionally stable and readily machined, Celoron fills the bill where costly metal parts fail.

ELECTRICAL INSULATION VALUE. Celoron is a non-conductor with high electrical insulation value. It makes ideal mechanical-electrical parts. Celoron couplings effectively insulate motors from driven machinery.

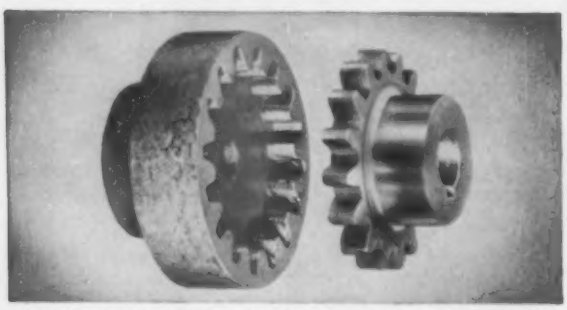
BETTER SERVICE FOR THE SOUTH. Besides having sales engineers in all principal cities, C-D-F maintains a specialized plant-warehouse stocking Celoron parts and Diamond Fibre receptacles for the Southern textile industries at 834 Hayne St., Spartanburg, S. C. Your Celoron gear blank, coupling, or loom part will reach you fast from this wide-awake distribution center.

Keep in close touch with *your* C-D-F sales engineer—a good man to know!

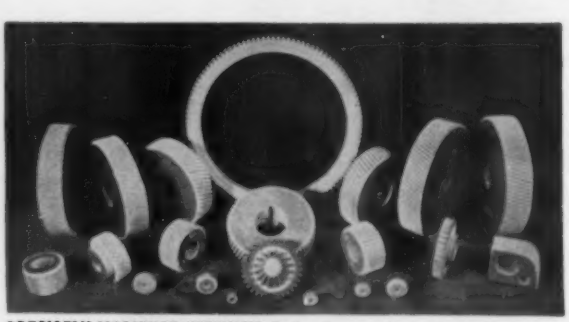
CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE Budd COMPANY • NEWARK 55, DEL.

In Canada: 46 Hollinger Road, Toronto 16, Ont.

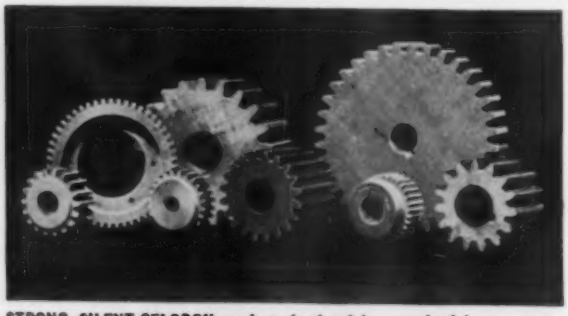


LOW-COST, EASILY-ASSEMBLED C-D-F Celoron flexible coupling transmits power smoothly, efficiently, silently . . . needs no lubrication, works on vertical or horizontal shafts.



PRECISELY MACHINED KEYWAYS help keep these Celoron parts silent and strong in the Ideal drawing rolls illustrated in top photograph. Note wide range of sizes and shapes.

YEARS OF SERVICE, freedom from maintenance, resistance to moisture—that's what these C-D-F parallel plugs, knife guides, binder bushings give the mill operator.



STRONG, SILENT CELORON makes both drive and driven gears. Metal gears don't develop excess play, last longer when they mate with Celoron. Many applications are 100% Celoron-geared.

Narrow Spinning Frame

A narrow spinning frame with improved features designed to provide high-production spinning at low initial and operational cost has been announced by Whitin Machine Works, Whitinsville, Mass. The frame, 27 ins. wide, permits 25 to 30% more spindles to be placed in the same floor space.

Called Whitin Standard, the frame is available in 3-, 3¼-, 3½-, 4-, and 4½-in. gauges. Traverse is up to 11 ins. An improved head-end assembly contains jack, cylinder, twist, lay, and builder gearing. The regular draft gearing is located at the head end.

Roll stand is inclined 45° to permit the twist to run up closer to the bite of the rolls. Front-to-middle and middle-to-back roll settings are adjustable. Stands have grease fittings for lubrication of front bottom rolls. Top rolls have ball bearings, and the front line is equipped with revolving clearers.

Groups of four spindles are driven from an 8-in. reinforced cylinder by a tape that operates in the usual manner. The frame can be furnished to spin either S or Z twist; regular equipment includes a cam and builder for filling wind.

Other features include balloon-control rings and a wind-down mechanism that lowers the rings to the bottom of the traverse easily and quickly for doffing. A vacuum waste-collector system is built in, and spindles on the larger-gauge frames have brakes. A 15-hp. motor runs the frame. **(Circle T-1 on Reader-Service Card)**

Seam Detector

Seams passing through processing or fabricating operations can be detected by a photoelectric seam detector offered by Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y.

Two phototubes are used in the system and both must receive the same change in light within a small but adjustable time limit in order for control or signaling mechanisms to be actuated. Small defects and slubs will not disturb the electrical balance.

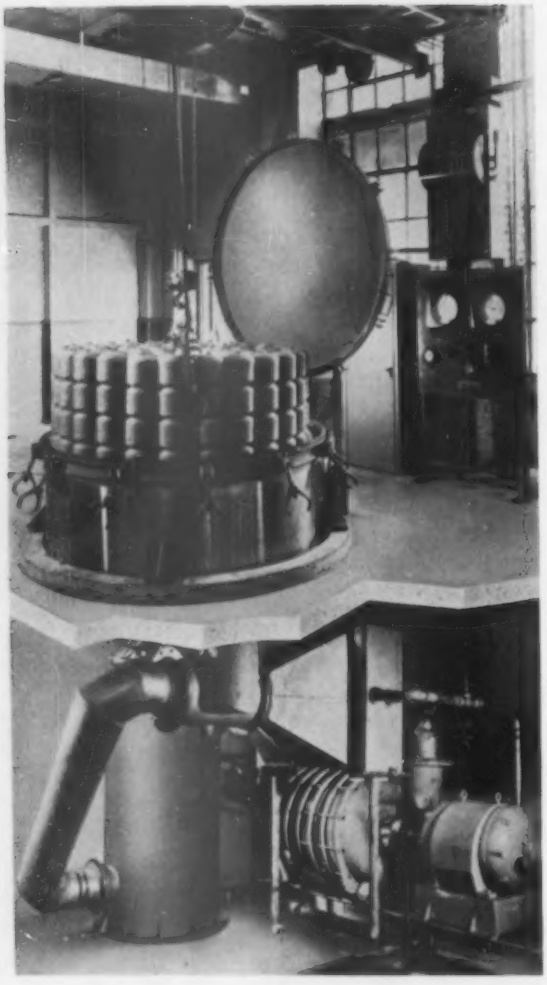
A light source is supplied with the seam detector, which is mounted so that light passes through the material that is being checked. There is no contact of the detector with the fabric. **(Circle T-2 on Reader-Service Card)**

Stretch-Winding Machine

A stretch-winding machine that permits direct stretching of man-made fibers at spinning speeds up to 600 meters per minute in the first stretching zone and up to 2,000 meters per minute in the final zone has been introduced by Costa International Corp., 2315 Broadway, New York 24, N. Y. Run at maximum speeds, the machine produces an almost completely stretched yarn that only has to be twisted before use.

The machine is designed so that yarn can be stretched either hot or cold. Ends entering the machine are guided over two antistatic rolls, after which they are delivered to the first pair of godets. The yarn then goes to a second pair of godets that stretches it in the desired ratio up to 1 to 6. A third pair of godets is adjustable to permit shrinkage of the yarn. Heaters can be installed at any of the godets to aid in shrinking or stretching the yarn as it passes through the machine. **(Circle T-3 on Reader-Service Card)**

Extractor-Dryer



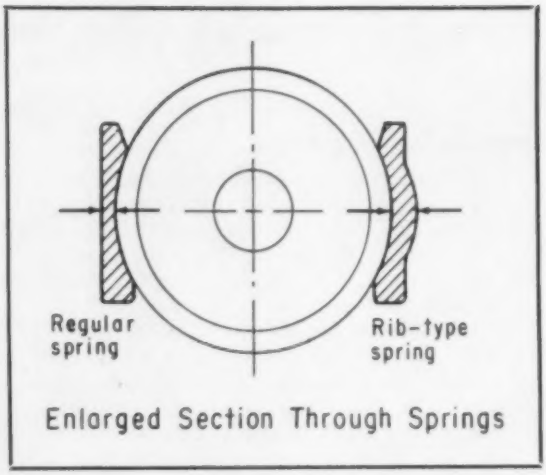
A recirculating-type extractor-dryer for packaged yarn has been announced by Turbo Machine Co., Lansdale, Pa.

Features are a quiet nonoverloading blower that has automatic control of air-supply temperature and an automatic temperature recorder for air exhaust. Air-flow direction control is either manual or automatic. The machine shuts off automatically at the end of the drying cycle. **(Circle T-4 on Reader-Service Card)**

Ultrasonic Testing

Ultrasonic instruments to test air, water, or steam lines for cracks or leaks are being produced by Sperry Products, Inc., Shelter Rock Rd., Danbury, Conn. Defects appear on a presentation screen as pipes of light that break the normal horizontal pattern characteristic of sound material. This information is obtained instantly. **(Circle T-5 on Reader-Service Card)**

Improved Shuttle Spring



A rib-type shuttle-spring design that provides additional strength at bobbin-ring grooves by increasing the thickness of stock at the bottom of the grooves has been developed by Draper Corp., Hopedale, Mass. The springs position and hold both springs and bobbins in correct alignment for better threading up at the bobbin transfer and reduced filling breaks. **(Circle T-6 on Reader-Service Card)**

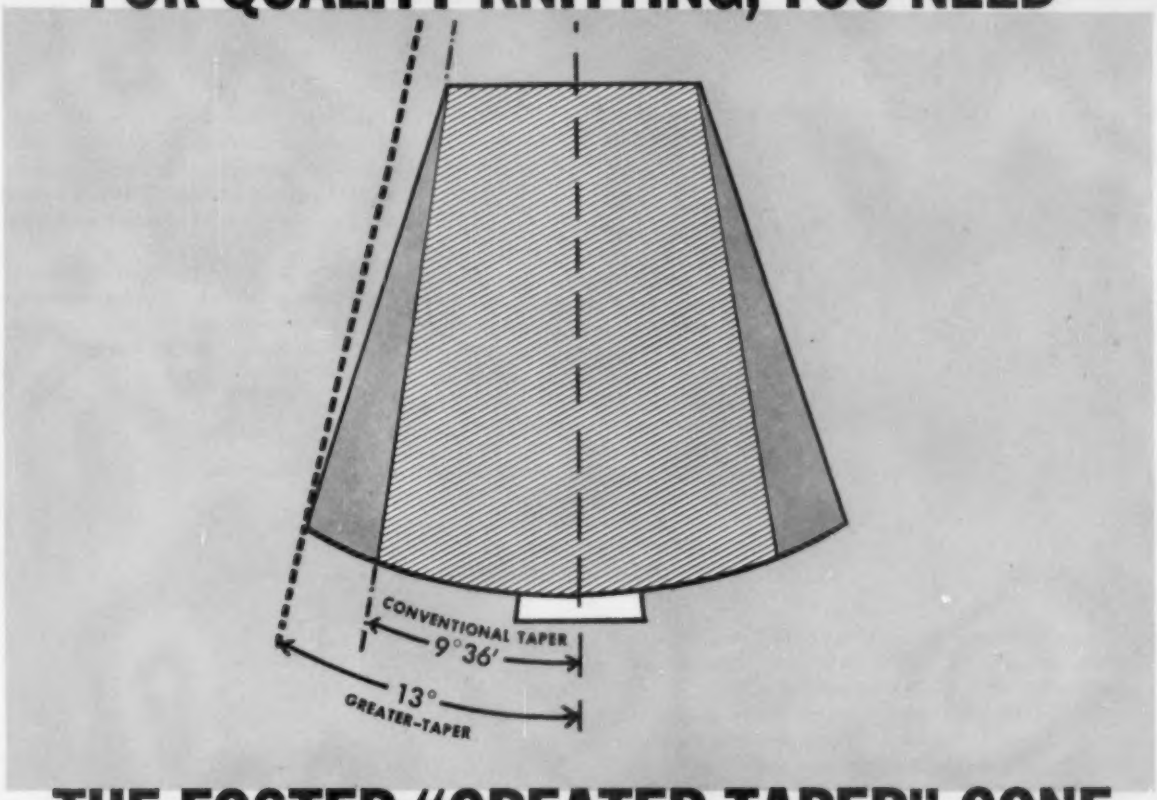
Polyethylene Packager

A low-cost semiautomatic packaging and sealing machine has been announced by Seal A Round Corp., 2024 S. Wabash Ave., Chicago, Ill.

The Seal A Round produces a plastic package and seals it on four sides, or three sides only, at a rate of 4,000 pieces per day.

Standard polyethylene stock with a continuous center fold is used for the operation. **(Circle T-7 on Reader-Service Card)**

FOR QUALITY KNITTING, YOU NEED



THE FOSTER "GREATER-TAPER" CONE

OTHER ADVANTAGES OF MODEL 102

1. Convex base of cone also prevents snags.
2. Highly efficient slub catchers automatically inspect yarns.
3. Ribbon breaker prevents ribbon wind.
4. Idler shell on winding drum prevents chafing.
5. Doubles production and reduces operating costs ⅓ over obsolete machines.
6. Repair costs as low as $10 per year per 100 spindles.
7. Yarn conditioning attachment if desired.

Tight stitches, in a knitted fabric, caused by snags, do not make for quality merchandise.

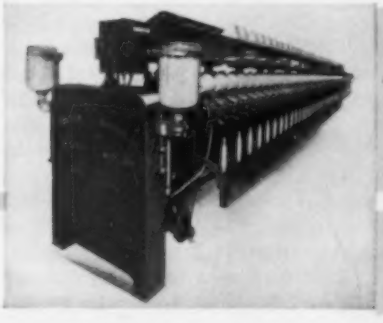
You can eliminate or minimize tight stitches by using a cone that permits the yarn to clear the nose on its way to the needle, even when the cone is full.

The Foster Model 102 "Greater-Taper" Cone does just this, because, although starting out with a 9° 36′ taper, it ends up with a 13° taper.

If you spin sales yarn for knitting, use the Foster Model 102 winder to give knitters the cone they need. If you wind cones in your own plant, the Foster Model 102 will give you cones that your knitting machines need.

Bulletin A-95-A on request

THE FOSTER MODEL 102 WITH YARN CONDITIONING ATTACHMENT



I3-0

ATMA
American Textile Machinery Exhibition
Parade of Progress

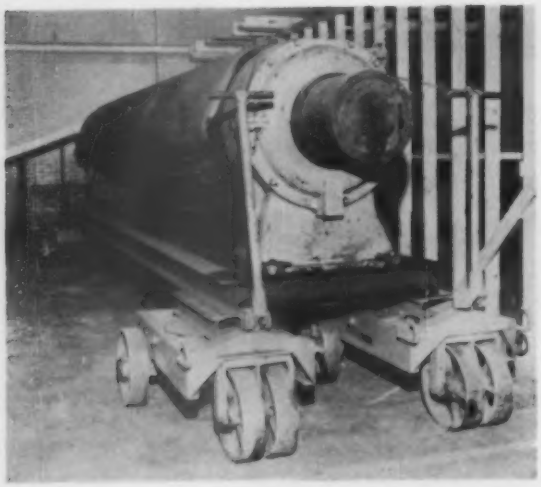
FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

SOUTHERN OFFICE — Johnston Bldg., Charlotte, N. C. • CANADIAN REPRESENTATIVE — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont. • EUROPEAN REPRESENTATIVE — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton-under-Lyne, Lancashire, England.

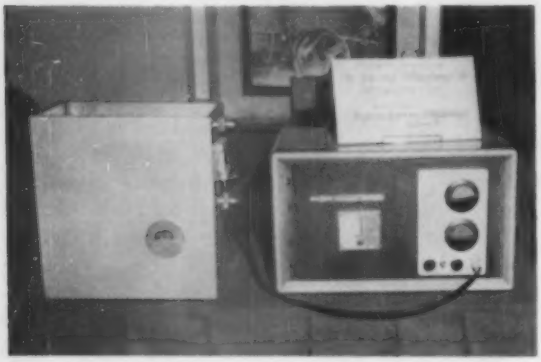
Turntable Roll Dollies



Heavy calender rolls can be transported through the plant on dollies marketed by Lewis-Shepard Products, Inc., 125 Walnut St., Watertown, Mass.

The units are available in capacities ranging from 8,000 to 20,000 lbs. each. A free-swiveling turntable is built into the dolly. On top of the turntable is a 10x30-in. plate in which is drilled slotted holes. The calender rolls may be bolted to these plates to insure safe transport within the plant. **(Circle T-8 on Reader-Service Card)**

Ultrasonics Cleaning Tank



An ultrasonics cleaning tank for small parts with a liquid capacity of 5 gals. is being manufactured by General Ultrasonics Co., Hartford, Conn. Used with an attached generator, the system is said to provide continuous trouble-free service.

The system is simple and economical to operate. In addition to general parts cleaning, the system electroplates, degreases, pickles, extracts, impregnates, degasses, and accelerates chemical reactions. **(Circle T-9 on Reader-Service Card)**

Roving Frame

A large-package roving frame that makes 3- to 4-lb. 12x6½ bobbins has been announced by Societe Alsacienne de Constructions Mecaniques, Mulhouse, France.

The frame has three-over-four drafting with a central top arm designed for heavy weights needed to process man-made fibers.

Horizontal drafting is available for fibers up to 2⅜ ins. long; drafting with an incline of 15° is recommended for fibers 2⅜ to 3⅛ ins. long. All top rolls have ball bearings. **(Circle T-10 on Reader-Service Card)**

Gray-Room Sewing Machine

A completely redesigned gray-room sewing machine with many automatic features is being marketed by Birch Bros., Inc., Somerville, Mass.

The Model MF, as it is called, will produce better than 200 40-in. seams per hour. Seams are automatically reinforced at each selvage and are separated from each other. Thread clippings and seam trimmings are automatically removed, and the completed seam is stripped from the machine.

Fabric is sewed at full width, which eliminates scrimps, puckers, and misaligned selvages. A Merrow 60D3B or 60ABB Butt Seam Head is used on the machine. The main drive is all ball bearing, is completely enclosed, and runs in oil. **(Circle T-11 on Reader-Service Card)**

ALSIMAG® 193

ELECTRICALLY CONDUCTIVE THREAD GUIDES

(U. S. Patent No. 2,369,266)

Parts shown approximately actual size.

These hard, homogeneous guides are recommended by leading producers of synthetic yarns and by leading manufacturers of textile machinery. They help control static electricity and produce better quality yarn. Stock designs available for most equipment. Custom made at reasonable cost for special requirements.

These conductive ceramic guides are available in either satin or bright finish. Rods and tubes can be supplied in controlled finishes in a normal range of 5 to 70 micro-inches r. m. s. Other special finishes can be supplied when required. Finish specification sheet sent on request.

Samples available on standard designs. Experimental designs made promptly and at reasonable cost. Send prints or description.

A Subsidiary of Minnesota Mining and Manufacturing Company

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENN.

58TH YEAR OF CERAMIC LEADERSHIP

SALES ENGINEERS: NEW ENGLAND: W. J. Geary, 27 Fairlawn St., Cranston, R. I. Williams 1-4177. NORTHEAST: J. S. Gosnell, 205 Walnut St., Livingston, N. J. WYman 2-1260. SOUTHEAST: James W. Crisp, Route 4, Taylors, South Carolina, CHurchill 4-0063. ALL OTHER AREAS: J. B. Shacklett, W. M. Crittenden, Jr., or W. H. Cooper, American Lava Corporation, Chattanooga 5, Tenn., AMherst 5-3411. REPRESENTATIVES: CANADA: Ian M. Haldane & Co., P.O. Box 54, London, Ont. ALL OTHER COUNTRIES: Minnesota Mining & Mfg. Co., International Div., 99 Park Avenue, New York, N. Y.

Adjustable-Speed Drive

A Kinatrol line eddy-current-coupling adjustable-speed drive for range drives, single-motor finishing machines, warpers, and slashers has been developed by General Electric Co., Schenectady 5, N. Y. The drive is furnished in ratings from 5 through 100 hp.

The stepless adjustable-speed drive is being offered as a complete package including the drive unit, control enclosure with control for both coupling and integrally mounted Tri-Clad a.c. motor, and operator's station. It is prewired for quick and easy installation.

Versatile performance is offered over a wide speed range. Ratings through 20 hp. are capable of continuous operation down to 100 rpm. at rated torque to provide a speed range of approximately 17 to 1.

Automatic control provides close speed regulation. On a typical friction load, for example, regulation of 2% of full speed can be obtained with standard equipment. All ratings are delivered at output shaft of coupling rather than at output shaft of a.c. motor.

The ventilation system gives cooler operation, greater speed range, increased torque capacity, and quieter operation. Control enclosure elements are all front-wired with exciter-regulator featuring plug-in component board for quick replacement if needed. **(Circle T-12 on Reader-Service Card)**

Rotary Traverse Winder

A high-speed rotary traverse winder known as Model RTM has been announced by Thomas Holt Ltd., Rochdale, England. The machine applies predetermined pressure on the packages to assure even density.

Features include a pattern breaker, a balloon breaker, and an "inverted-peg" self-threading and self-cleaning disk tension. The tension is standard equipment along with a slub catcher that can only be adjusted with a special key. If the slub-catcher assembly is tampered with by unauthorized personnel, the thread gap closes completely.

Final lifting action of the package from the winding roll is power operated and uses no springs or weighted levers. Other improvements include better positioning of the supply package, threading arrangement, stop-motion guides, and other items that require operator attention. **(Circle T-14 on Reader-Service Card)**

Tag-Imprinting Machine

A tag-imprinting machine, designed specifically to solve marking problems created by the Textile Fiber Products Identification Act, that enables a manufacturer to dial-set combinations of generic names of fibers and their percentages and imprint them as needed on preprinted tag forms has been announced by Dennison Mfg. Co., Framingham, Mass. **(Circle T-15 on Reader-Service Card)**

Self-Closing Drum Cover

A self-closing cover for 55-gal. oil drums is being marketed by Witt Cornice Co., 2118 Winchell Ave., Cincinnati 14, Ohio. The cover fits snugly on drums and is removed easily. Trash is pushed in from any angle through a flap opening.

A drum dolly also can be furnished with the cover to convert the drum to a mobile container. It handles any drum with an outside diameter of 25 ins. or less. Capacity is 600 lbs. Either neoprene or iron ball-bearing casters can be furnished. **(Circle T-16 on Reader-Service Card)**

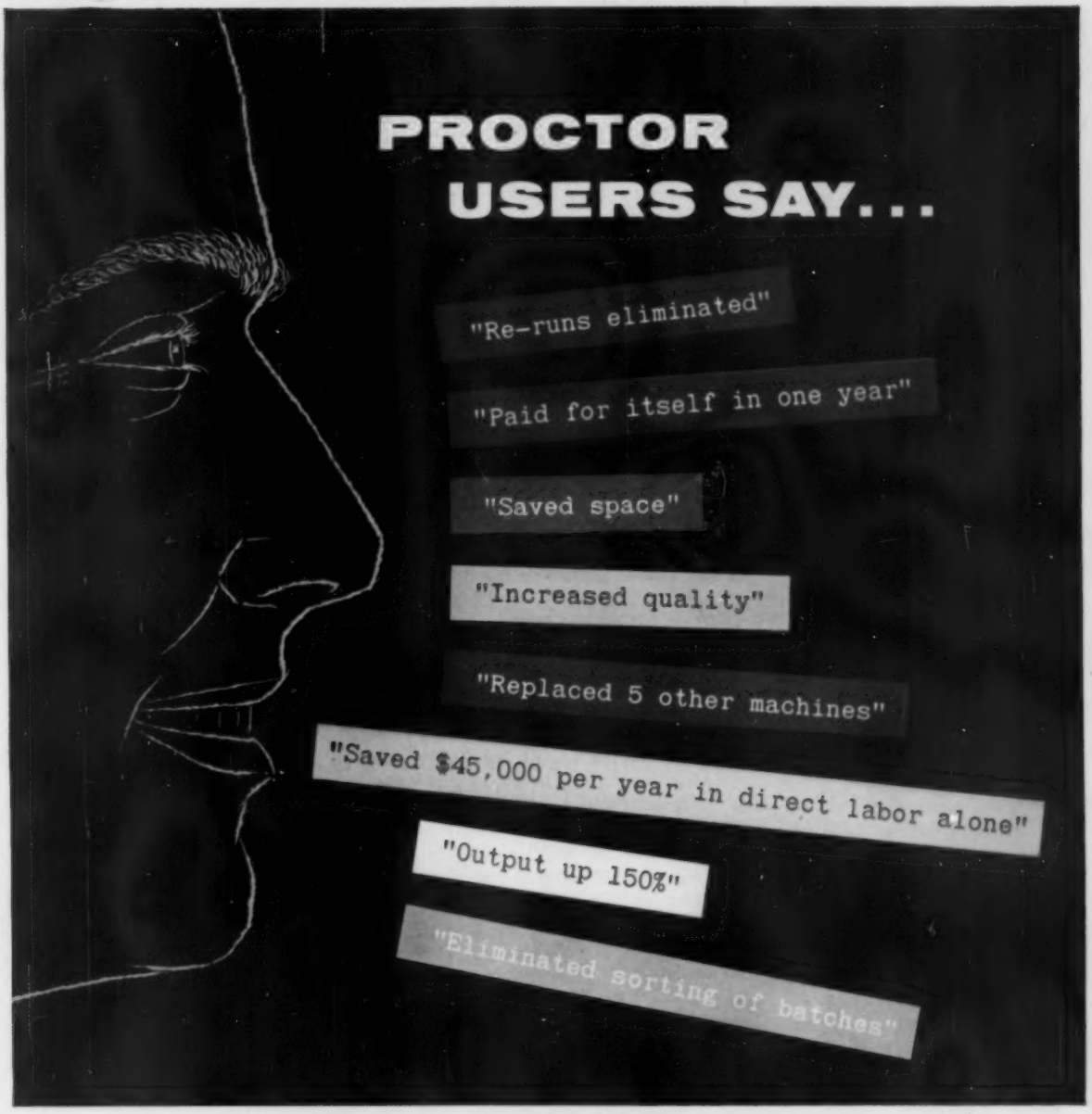
Improved Gears

A development in gear-manufacturing methods makes it possible for Ferguson Gear Co., Gastonia, N. C., to further improve textile quality control of both yarns and fabrics. Gears are now inspected with an optical comparator, which makes it possible to make gears with closer tolerances than has been possible. **(Circle T-13 on Reader-Service Card)**

Selvage Uncurler

Power-driven spiral rolls are featured in a selvage uncurler marketed by Guider, Roll & Service Co., P. O. Box 3747, Daytona Beach, Fla.

Light or heavy uncurling action is made possible by the roll-mounting mechanism and counter weights that adjust the energy supplied to the goods at hand. **(Circle T-17 on Reader-Service Card)**



modernize now with Proctor textile machinery

From fiber to fabric you'll find Proctor equipment increasing profits for its users through:

- **greater productivity**
- **higher quality**
- **less maintenance**
- **flexible operation**
- **more output with less labor**
- **longer life**

Proctor®

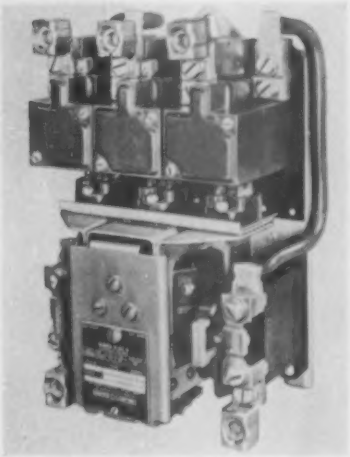
PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTI-PASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS • EQUIPMENT FOR "SESAMIZED"® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

PROCTOR & SCHWARTZ, INC.
PHILADELPHIA 20, PA.

CIRCLE 155 ON READER SERVICE CARD 155

Compact Starter



A compact NEMA Size-4 starter that's 35% smaller than the manufacturer's other similar starters in the same rating has been announced by Square D Co., 4041 N. Richards St., Milwaukee 12, Wis. Dimensions are 12⅜x8¼x6⅝ ins.

The starter features trip-free melting alloy overload relays with unit-construction thermal units or adjustable bimetallic overload relays with hand and automatic reset. Up to four double-circuit interlocks may be added.

Molded coils plus contact blocks molded of inorganic noncarbon tracking material provide extra electrical life.

Large contact tips of special silver alloy also contribute to long life and easy inspection and maintenance. **(Circle T-18 on Reader-Service Card)**

Magnetic-Inspection System

Fatigue cracks in machines and parts are shown with a magnetic-field inspection system developed by Magnaflux Corp., 7300 W. Lawrence Ave., Chicago 3, Ill. Therefore prefailure defects are located quickly before they stop production.

Cracks are revealed with a glowing light in even such hard-to-see places as threads of bolts or the insides of holes. **(Circle T-19 on Reader-Service Card)**

Wire Skinner

A fast-working, easy-to-use tool for skinning metal-sheathed thermocouple wire has been developed by Thermo Electric Co., Inc., Saddle Brook, N. J.

Especially useful whenever thermocouple conductors must be exposed, as in attaching terminals, this small, lightweight skinner removes sheath metal in a manner similar to and as simple as the action of a pencil sharpener.

The thermocouple wire to be skinned is inserted into the tool, which is then rotated in a clockwise direction. With a few twists, the metal sheathing is cut away cleanly.

The open construction of the skinner provides two advantages: (1) the exact amount of metal sheath being skinned is always visible, and (2) the cut pieces of sheathing fall out and away from the cutting area and therefore cannot clog or jam the tool.

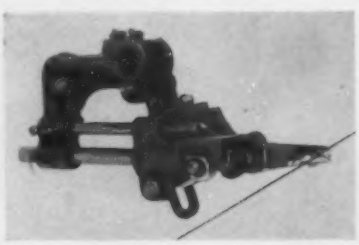
Three sizes are available to accommodate 1/25-, ☆-, and ⅛-in. outside diameter thermocouple wire. **(Circle T-20 on Reader-Service Card)**

Loom Thread Cutter

Series 8300 filling holder and cutter for looms has been announced by H. F. Livermore Corp., Allston Station, Boston 34, Mass. The holder and cutter eliminates filling drag-ins caused by faulty operating older holders and cutters. In addition, it reduces loom downtime to increase over-all production and reduce second-quality fabric generally.

This loom part weaves without any adjustment all types of filling and yarn numbers, including cotton, rayon, and glass fibers. Its hardened-steel gripper holds the filling firmly and in a straight line before and during cutting.

Only one setting is necessary for the lifetime of this part for correct opening and closing of the gripper and curved cutter blades in the exact proper sequence, and this setting is made at the factory.



The device is said to have been tested on 800 looms in mill production. It has also been tested at 200 oscillations per minute for an extended period equivalent to a normal five-year mill-production run.

The photograph shows the retainer plate cut away to expose the action of the gripper and cutting blades. **(Circle T-21 on Reader-Service Card)**

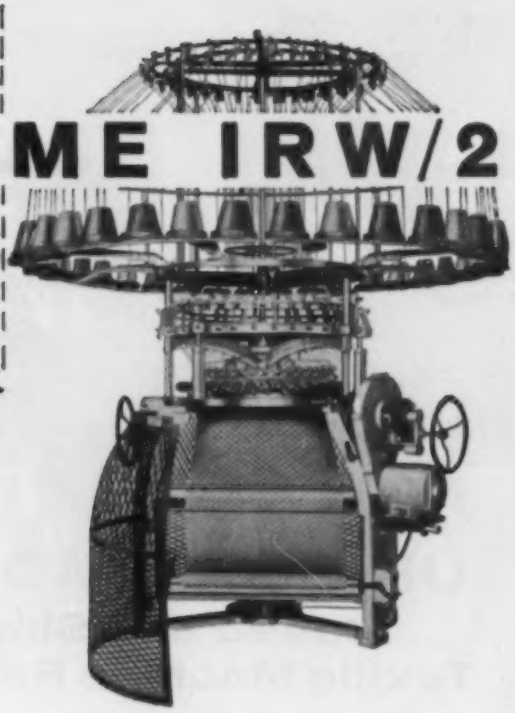
Paint-Brush Conditioner

A paint-brush conditioner for storing, preserving, and reclaiming brushes is being manufactured by Wisconsin Laboratories, Inc., Dousman, Wis. Brushes are stored in an airtight container and hang in vapor, not in liquid.

The container is of sturdy fibre construction and holds six to eight medium-size brushes. Hard-as-rock brushes are said to be reclaimed easily. A vaporizing solvent evaporates from a wick in the container and penetrates the brushes to dissolve the binding oils or resins in paint, varnish, enamel, lacquer, or shellac. **(Circle T-22 on Reader-Service Card)**

CONTINUED ON PAGE 174

NEW SUPREME IRW/2



Puts You 50% AHEAD OF TODAY'S PATTERNED RIB INTERLOCK FIELD

- ***36 feeds—50% Greater Production Than Any Present Machine***
- ***50% Greater Pattern Area Than Previously Possible***
- ***Unsurpassed Versatility***

Supreme's model IRW/2 knits *up to 42 yards per hour* of patterned or plain rib and interlock yard goods for outerwear and bathing suits.

Its 36 feeds give the knitter a tremendous advantage over existing machines in output and pattern area. All feeds are equipped with extra large pattern wheels (up to 6" diameter wheels supplied as standard equipment with larger diameters available optionally). The IRW/2 is 30" in diameter and available in cuts up through 16 per inch.

DUAL RACEWAY GIVES VAST SCOPE OF PATTERNS & TEXTURES FOR OUTERWEAR

The dial has a dual raceway for rib or interlock production. The needles of either raceway may be set in knit to tuck or knit to welt positioning — providing a sweeping range of patterns and textured rib or interlock production.

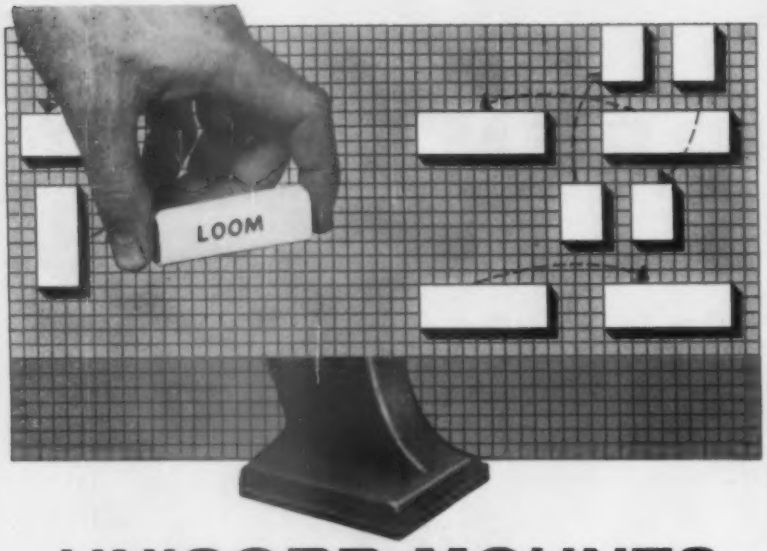
Supreme's new feeding rollers for accurate and positive control of rubber yarns are available as optional equipment . . . providing an extra advantage for bathing suit fabric producers.

Has Supreme's Standard, Mill-Proven Features including revolving cylinder — stationary yarn stand — rugged, dogless construction, etc.

Write for free booklet on this important advance in the interlock field.

SUPREME
KNITTING MACHINE CO., INC.
94-02 104th STREET, OZONE PARK 16, N. Y.

SE-134



UNISORB MOUNTS

Speed and Simplify Textile Machine Relocation

You can keep your mill operating at top efficiency by easily relocating your machines for maximum cost savings — with a Unisorb Mounting program. It is the one method that gives you complete choice of mount selection and flexibility in machinery location.

Textile mills throughout this country and abroad have depended on this Unisorb system to help them maintain production efficiency for over 25 years. Here is how it can help you . . .

- Unisorb holds machinery in place without screws or lag bolts — no hole drilling, no tricky spotting.
- Up to 80% of installation time is saved.
- Machines can be quickly and easily moved to new and more efficient locations.
- Unisorb reduces transmitted vibration and noise up to 85%.
- Machines can be run at maximum speeds, increasing production.
- Unisorb helps reduce worker fatigue and increase their productivity.
- Unisorb keeps machines level — reduces wear and tear on moving parts.

UNISORB MOUNTS

MAKE THE DIFFERENCE!

Unisorb is available in a wide variety of densities and thicknesses to suit all types of textile machines, including a special type "T" pad for spinning, roving and twisting frames. Ask your local Unisorb distributor for complete information or write direct.

INDUSTRIAL SUPPLY CO., CLINTON, S.C. • TEXTILE SUPPLY CO., DALLAS, TEXAS

UNISORB

UNISORB 213 SOUTH STREET, BOSTON 11, MASSACHUSETTS

Division of The FELTERS Company New York, N.Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. • Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Los Angeles, Calif.

Please send me a Unisorb Sample and Free Book.

Name.....

Company.....

Address.....

City..... Zone..... State.....

NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Woolen card feeder—Bulletin describes Type B-5 feeder that is basically the same as the Type B-4 machine except that it is equipped with the Electro-Vary-Speed drive and an electrically activated automatic catch pan. Geo. S. Harwood & Son, Inc. (F-1)

Sewing machines—Three-color brochure describes how lockstitch, basting, serging, and zig-zag stitch machines and blindstitch, felling, and button sewing machines perform special operations. Seam samples are pictured next to each machine. Union Special Machine Co. (F-2)

Pump-tank combination—Bulletin describes two 50-gal. units designed for accurate feeding of chemical solutions and treatment of boiler water. Tanks are made of molded polyethylene that is practically corrosionproof. High-pressure and low-pressure models are available. B-I-F Industries. (F-3)

Lickerin and doffer drives—An improved nylon-core belt called Nycor Texbelt is described in bulletin that tells how its chrome-leather pulley ply assures maximum coefficient of friction and its oriented nylon center ply provides high tensile strength and freedom from stretch. Graton & Knight Co., Div. of L. H. Shingle Co. (F-4)

Calender rolls—36-p. brochure on Bentley calender rolls used for friction and Schreiner calendering and an 8-p. booklet on Bentley wood-fibre rolls used for water and starch mangling are available from Rodney Hunt Machine Co. (F-5)

Cotton colorimeter—That is accurate to 0.2% over a period of days without calibration is described in bulletin from Special Instruments Laboratory, Inc. (F-6)

Multirange speed recorder—Applications, features, principles of operation, and specifications of the Type HF expanded-scale speed recorder are discussed in bulletin from General Electric Co. (F-7)

Power drives and motors—Over 8,000 ratings are described in 68-p. catalog that covers drives and dripproof motors. Included are prices, dimensions, specifications, and a simplified numbering system that makes drive selection quick and easy. Sterling Electric Motors. (F-8)

Process timers—For controlling repeating cycles are described in bulletin that covers features, applications, dimension, prices, and ordering directions. General Electric Co. (F-9)

Metering pump—Operating principles and five typical applications of the

ONLY ONE TO TWENTY...

ONLY ONE PART OF IMMUNOL

REG. U.S. PAT. OFF.

to 20 parts of water makes an outstanding solution that Cleans and Rustproofs Textile Equipment.

This solution is:

• NON-FLAMMABLE • NON-TOXIC
• ODORLESS • VERY ECONOMICAL

It replaces ALL solvents

Write today for a free sample

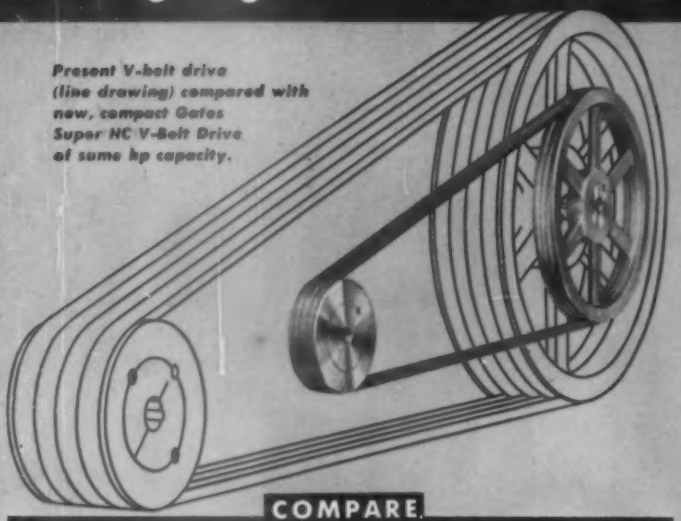
HARRY MILLER CORP. HAMICO 4th & BRISTOL STREETS PHILADELPHIA 40, PA.

Manufacturers of
• IMMUNOL • GLYCOLA • POTENTOL
• FIBREGARD • REVERSOL • ACTIVOL
• FIRMTAL

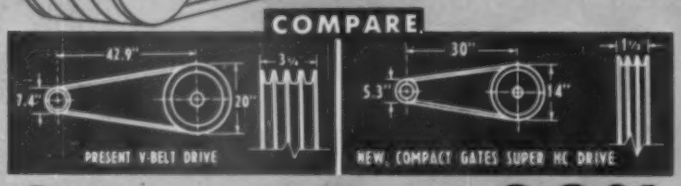
HARRY MILLER CORP.
Original Products and Processes Since 1936
4th and BRISTOL STREETS • PHILADELPHIA 40, PA. • DAvenport 4-4000
Service Representatives in Principal Cities

CIRCLE 159 ON READER SERVICE CARD 159

Designing NEW DRIVES?



Present V-belt drive (line drawing) compared with new, compact Gates Super HC V-Belt Drive of same hp capacity.



Save up to 20%

with new high capacity V-belt drive

When you change the whole drive — both V-belts and sheaves — remember: The cost of a Gates Super HC V-Belt Drive is as much as 20% less than the cost of present V-belt drives of the same horsepower capacity.

A development of Specialized Research in the world's largest V-belt laboratories at Gates, the new Super HC V-Belt makes possible the most compact, lightest-weight, lowest-cost multiple V-belt drive you can put on any machine!

Cuts drive space as much as 50%

With Gates new Super HC V-Belt, sheave diameters and widths can be reduced 30% to 50%, center distances 20% and more. Bearing load is lightened and total space occupied by the drive may be cut as much as 50%.

"The Modern Way to Design Multiple V-Belt Drives" is an informative handbook on the Super HC Drive, available from your nearby Gates Distributor listed in the Yellow Pages of your phone book.

The Gates Rubber Co., Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ont.
World's Largest Maker of V-Belts

TPA 439

Gates SUPER HC V-BELT Drives

NEW LITERATURE Continued

Servo-Gauge metering pump and its controller, which has a pump-plunger-positioning accuracy within 0.002 in., are described in bulletin from Associated Control Equipment, Inc. **(F-10)**

CHEMICALS & SUPPLIES

Hydrogen peroxide—63-p. booklet presents practical information on the chemical and its water solutions and on handling, dilution, and storage. Numerous charts, graphs, and tables deal with physical and chemical properties. Solvay Process Div., Allied Chemical Corp. **(F-11)**

Organic chemicals—28-p. booklet describes more than 400 chemicals and contains information on applications, physical properties, and shipping data. Union Carbide Chemicals Co., Div. of Union Carbide Corp. **(F-12)**

Aliphatic amine mixture—Technical bulletin gives specifications, applications, and cost of nonvolatile mixture that can be used in resins for adhesives, as a curing agent for resins, and as a component for water treatment and corrosion-resistant formulations. Industrial & Biochemicals Dept., E. I. du Pont de Nemours & Co., Inc. **(F-13)**

Colloidal silica dispersion—For use in textile processing and finishing is described in bulletin on Syton DS, a functional additive that may be combined with regular finishing resins or used alone for fabric finishing and to control yarn slippage, hand, and luster. Inorganic Chemicals Div., Monsanto Chemical Co. **(F-14)**

Surfactants—44-p. booklet describes properties and uses of eight nonionic and four anionic Tergitol surfactants. Data include selection, solubilities, formulations, performances, test methods, etc. Chemicals Dept., Union Carbide Corp. **(F-15)**

Surfactants—For use in washing woolen felts and stripping and cleaning rags are described in bulletin that outlines the chemistry and physical properties of four alkyphenol ethylene oxide adducts. General Dyestuff Co., Div. of General Aniline & Film Corp. **(F-16)**

Chlorine-in-air concentrations—Can be checked with M-S-A detector described in bulletin that tells how the instrument can identify from ½ to 20 ppm. Industrial applications and health hazards are discussed. Mine Safety Appliances Co. **(F-17)**

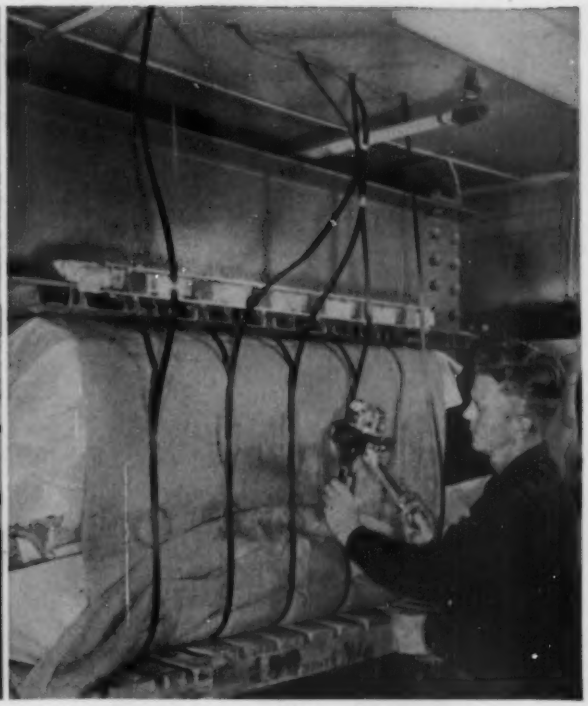
ENGINEERING & MAINTENANCE

"Removing Stains from Floors"—Is the title of a maintenance data sheet that tells how to remove many types of stains from different kinds of floors in use today in mills and offices. A second data sheet tells how to remove stains from carpets. Puritan Chemical Co. **(F-18)**

Grease gun—That delivers either high-pressure or volume quantities of lubri-

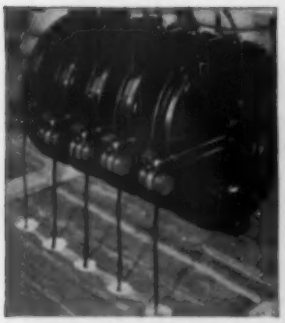
CONTINUED ON PAGE 166

Strapping is fed from dispensers in room above press (inset). A magnetized bar holds the straps in position while bale is readied.



Signode's exclusive Model SFC tool tensions the strapping, feeds seals from magazine, and crimps them. Straps are severed at the seal. No waste strap.

Signode way produces denser bales and reduces strap use by 17%



Strapping dispensers can be in a variety of locations. Above, they are shown set up in an overhead storage area; at right they are shown installed on a framework over the press. They may also be installed on the floor beneath the press or behind the operator.

Here's an example of a simple and inexpensive answer to a packaging problem. Waste—which was part of the former cut-to-length strapping method—was eliminated, with a 17% saving in the amount of strapping used. Bales are better looking. Their increased density saves about 7% of valuable space in storage and shipment. The entire strapping operation is simplified, goes easier and faster.

Why not let a Signode man take a new look at your packaging and shipping operation. He has an eye for savings, specialized knowledge of textile applications, and a complete line of strapping tools and machines at his disposal. Call him today, or write:

SIGNODE

First in steel strapping

SIGNODE STEEL STRAPPING CO.

2642 N. Western Avenue, Chicago 47, Illinois

Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

CIRCLE 161 ON READER SERVICE CARD 161

NEW!

GREASELESS, SMEARLESS, GUARANTEED EFFECTIVE

NEUTRO-STAT ANTI-STATIC SPRAY

Neutro-Stat Aerosol Spray is guaranteed to work on all textile materials and machinery. Prevents clinging and other static slowdowns. Made by SIMCO, leader in the field of static elimination, it's non-oily, non-toxic, and non-flammable. Mail coupon today!

TRY NEUTRO-STAT ON MONEY-BACK GUARANTEE!

Ship____16 oz. cans of Neutro-Stat @ $2.75

____cartons (1 doz. 16 oz. cans) @ $27.50

FIRM_____

ADDRESS_____

SIGNATURE_____

the SIMCO company
920 Walnut St., Lansdale, Pa.

Easy Way To Check Twister-Bobbin Content

• When you enlarge the bobbin size on twisters, it is necessary to determine whether or not the receiving spool is large enough to accommodate the additional yarn. Here's a simple formula that can save you a lot of winding and unwinding if you normally use trial-and-error methods.

MILLS FREQUENTLY HAVE TO CHANGE BOBBIN SIZES in today's rapidly changing textile operations. Very often, capacity of the new bobbin is considerably different from that of the old one, which can cause undesirable knots and unbalanced production.

This condition often occurs in the twisting department when larger bobbins are added for the production of ply yarns and where receiving bobbins are too small.

Most mills customarily check yardage on twister bobbins with some kind of measuring instrument to keep the yarn content as close as possible to standard tolerances. Some mills, however, do not have these instruments; and when bobbin changes are made they find it necesary to buy or borrow instruments for measuring yarn. Bobbin selection can be made by trial-and-error methods, but the operation requires considerable time and often results in the production of considerable waste yarn.

Formula Is Simple

Selection of the proper size bobbin can be made in a matter of moments by applying this simple mensuration formula:

$$V = \frac{\overline{m}}{4} \times (d)^2 \times h$$

Where: V = volume, $\overline{m}$ = 3.1416, d = diameter, and h = height.

Here's a hypothetical case:

Mill A is planning to change its twister bobbins to these dimensions: diameter of barrel 1⅜ ins.; diameter of full bobbin 3⅛ ins.; and over-all length of bobbin 7½ ins. including 1½ ins. of tapered nose.

To simplify calculating the cubic content of the bobbin, it is assumed that the entire length is cylindrical including the taper. Substitutions are made in the formula as follows:

$$V = \frac{3.1416}{4} \times (3.125)^2 \times 7.5$$

or

$$0.7854 \times 9.77 \times 7.5 = 57.5 \text{ cu. ins.}$$

Diameter of the barrel is calculated in the same way and found to be 11.1 cu. ins., which subtracted from 57.5 cu. ins. gives a gross capacity of 46.4 cu. ins.

Receiving Spool Is Measured

An old receiving spool from many sizes on hand is selected and measured. The two heads are 4 ins. in diameter, the barrel 1½ ins. in diameter, and the length 5 ins. These figures, substituted in the same formula, give this result:

$$V = \frac{3.1416}{4} \times (4)^2 \times 5$$

or

$$0.7854 \times 16 \times 5 = 62.8 \text{ cu. ins.}$$

The receiving-spool barrel contains 8.8 cu. ins., which subtracted from 62.8 cu. ins. leaves a gross cubic content of 54 cu. ins.

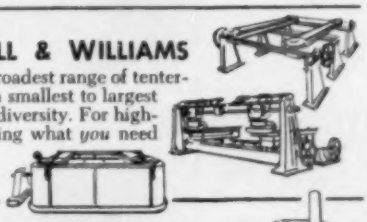
Obviously, this spool is more than large enough to receive all the yarn off the twister bobbin, especially when the nose taper is taken into consideration. A somewhat smaller bobbin could be used, but in this instance none is available. Actually, the mill is glad to install the larger receiving bobbin because there is a good chance that the size of the twister bobbin may again be increased in the future.

Tentering Specialists...

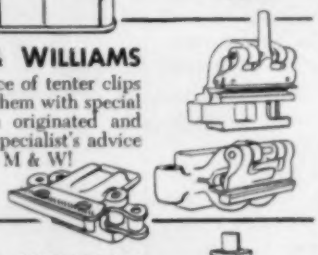
MARSHALL & WILLIAMS!

Only MARSHALL & WILLIAMS has been specializing long enough to build up a fund of total know-how on tenters and tentering. For solutions you'll find nowhere else, avoid trial-and-error answers . . . ask M & W!

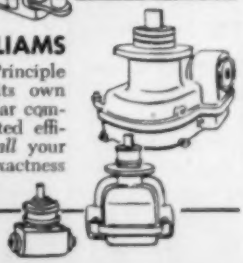
Only MARSHALL & WILLIAMS manufactures the broadest range of tentering equipment from smallest to largest sizes, in the widest diversity. For high-level help in selecting what *you* need . . . ask M & W!



Only MARSHALL & WILLIAMS provides the widest choice of tenter clips on the market—many of them with special features, many of them originated and developed by us. For a specialist's advice on this specialty . . . ask M & W!



Only MARSHALL & WILLIAMS can offer the M & W Modular Principle in tenter frames — combining its own drives, frames and clips as modular components to give you unprecedented efficiency and economy. To meet *all* your processing needs with scientific exactness . . . ask M & W!



ATMA Parade of Progress

S-0

For all-inclusive tentering see M & W!

MARSHALL and WILLIAMS CORPORATION
PROVIDENCE, R. I. GREENVILLE, S. C.
West Coast Agents E. G. PAULES & CO. Los Angeles, Calif.
Canadian Representatives
RUDEL MACHINERY COMPANY LIMITED
Main Office • MONTREAL, QUEBEC
Export
AD. AURIEMA, INC., 85 Broad St., New York, N. Y.

CIRCLE 250 ON READER SERVICE CARD

Have You Tried a RIDGID Hex Wrench Yet?

Six Sizes with Maximum Jaw Openings of 1⅛", 1½", 1¾", 2½", 3½" and 4⅞" across flats.

the Perfect Mate for your RIDGID Pipe Wrench!

Finest of All Adjustable Smooth-Jaw Wrenches

MORE GRIPPING POWER... for all nuts. Puts a wrap-around grip on hexes that just won't slip. Because you're pulling with at least three flat sides at once, you'll never round off shoulders. Works on square nuts, valve packing nuts, unions and gas cocks and flat shapes, too. Smooth jaws won't even mar polished or plated surfaces.

RUGGED CONSTRUCTION... built good and solid. Thin but extra-strong jaws slip into tight places. The first time you use a hex wrench you'll know that here's a wrench you'll use for a long, long time. It's every bit as rugged as your familiar RIDGID Pipe Wrench.

RIDGID No. E-110 Offset Hex Wrench

Big Jaw, Short Handle for Sink and Tub Drain Nuts

Maximum Jaw Opening—2½" across flats.

RIDGID No. E-11 End Hex Wrench

Offset Jaw for Easy Work in Tight Places

Maximum Jaw Opening—1½" across flats.

From experience you know it's easier to work with the best of tools. Order your RIDGID Hex Wrenches from your Supply House today!

RIDGID

The Ridge Tool Company • Elyria, Ohio, U.S.A.

CIRCLE 163 ON READER SERVICE CARD

For Slasher Squeeze Rolls—Wool or Rubber?

• Many mills find it difficult to decide which type of squeeze-roll covering is best. Both wool and rubber (or synthetic rubber) have qualities not possessed by the other. Each type of covering also has its faults.

ARE RUBBER-COVERED SLASHER SQUEEZE ROLLS better than wool-covered rolls? This question has been argued pro and con for a number of years. Like many other questions of textile machinery, equipment, and supplies, the choice of squeeze-roll covering is governed by many factors.

The slasher speed, size pickup desired, size formula, weight of rolls, type of yarn, number and size of yarn, and personal preference are all things to be considered in choosing the squeeze-roll covering.

Twenty-six Georgia and Alabama mills that have used both rubber and wool for squeeze-roll covering believe that rubber-covered rolls have some advantages. The most notable advantage of rubber is economy and a minimum of maintenance. Rolls were reported as being run from six months to two years before buffing was required.

Another advantage of rubber-covered rolls was better size pickup. In fact, some mills object to the use of rubber-covered front or finisher rolls because of excessive pickup. Also, glazing of the size on the yarn was one objection to using a rubber-covered finisher roll.

Roll Weight Helps Control Pickup

There were reports of yarn sticking to the cylinder and of excessive shedding at the slasher in using rolls covered with rubber. However, most mills stated that no difference had been noted in sticking and shedding.

On other factors, including speed of drying, shedding at the loom, and weaving efficiency, there was general agreement that no advantages could be claimed for either type of roll covering.

Some of the mills recommend a pneumatic pressure control so the weight of the roll can be varied. Variation in pressure of the roll is especially helpful when there is a wide range of yarns and sets to be slashed.

But there was a divergence of opinion on the ideal weight of squeeze rolls. Some mills reported satisfactory results with a dead weight of 400 lbs. or less. Other mills were adding as much as 300 lbs. pneumatic pressure to rolls having a dead weight of 700 lbs.

No One Roll Covering Is Best

So the question of whether to use wool or rubber for squeeze-roll covering boils down to an individual mill preference. Some get advantages with a rubber-covered roll that offset the roll's disadvantages, and vice versa.

From a breakdown of the mill reports, it appears that there is no best covering or combination for all mills, slashers, and yarns.

A pooling of information and experiences is invaluable; but different conditions are encountered from mill to mill. The trend seems to be for each mill to measure the obvious advantages of blanket, yarn-wound, and rubber-covered squeeze rolls and then give the one appearing to be best for its particular application a fair trial.

From Georgia and Alabama T.O.E. reports

CIRCLE 164 ON READER SERVICE CARD

WHAT HE SEES MEANS MONEY IN YOUR POCKET!

results show how new REZOSOL *binder increases loom production, cuts cost in spun synthetics and blends*

The Houghton technician shown above is checking an abraided yarn previously sized with Houghton's new REZOSOL binder. Subsequent tests on ribbon warps and in full-scale mill production of spun blends proved conclusively that Rezosol:

1. Improved weaving efficiency
2. Reduced seconds
3. Lowered kettle costs
4. Reduced shedding
5. Provided easier mixing

More and more mills throughout the country are finding Rezosol's superior sizing characteristics the answer to better weaving of spun warps containing the newer synthetic fibers. Rezosol Nos. 1460 and 1438 are the newest members of Houghton's family of textile products to improve production and cut production costs. For details about Rezosol, or other textile processing aids, call your nearby Houghton Man or write: E. F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33, Pa.

Industry's Partner in Production

E. F. HOUGHTON & CO.

Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

EUROPEAN YARNS

combining excellent working qualities for creating distinctive functional beauty

CARDED AND COMBED COTTON

American-type Egyptian Karnak-Sudan • Peru

SINGLES AND PLIED • MERCERIZED • GASSED • BLEACHED • DYED NATURAL

ON ANY "PUT-UP"

Artificial and synthetic yarns, carded wool yarns, novelty yarns

MIXED BLENDS OF WOOL & COTTON SYNTHETICS, SPUN RILSAN & STAPLES

Write for working samples; technical services also available

LOUIS S. EDERER CO.

IMPORT P.O. BOX 232 SPRING HOUSE, PA • MI 63039 • CABLE AMELTPH EXPORT

SALES OFFICE: CHARLES W. WALCOTT YARNS • 722 JEFFERSON BLD., GREENSBORO, N. C.

HAE-LSE/200 ALL ACCOUNTS U. S. FACTORED

CIRCLE 251 ON READER SERVICE CARD

Another Outstanding Development By

The Woonsocket Napping Machinery Company

MODEL #1035, 20-ROLL, HIGH-SPEED KNIT GOODS NAPPING MACHINE

Designed for napping all types of synthetic pile linings, floor coverings and crib blankets as well as tubular fabrics made from synthetics, cotton or wool.

This machine has many features not previously incorporated in a knit goods napping machine such as geared driven ball bearing napper rolls, ball bearing carrier rolls, P.I.V. controls for napping energy, variable cloth speed driven by a P.I.V. with a range from 10 to 35 yards per minute over the cylinder.

An important feature is a variable speed feed roll also controlled by a P.I.V. which governs the tension of the cloth on the machine as well as driving a spreader roll that is invaluable for the edges on split fabrics which are inclined to roll.

WOONSOCKET NAPPING MACHINERY CO.

WOONSOCKET **RHODE ISLAND**

NEW LITERATURE

Continued from page 160

cant by means of a simple shifting device and produces pressures up to 10,000 psi. with a stroke as short as ¼ in. is described in bulletin from Lincoln Engineering Co. (F-19)

Flooring guide—Manual discusses maintenance, repair, patching, and resurfacing of interior and exterior floors; also lists 30 flooring materials and tells where and under what conditions to use them. Flooring Div., Monroe Co., Inc. (F-20)

Self-curing zinc coating—That gives bare steel complete protection from water, severe weathering, salt spray, and abrasion is described in bulletin that tells how the coating cures itself to metallic hardness and adheres permanently. Amercoat Corp. (F-21)

Gear-belt drives—That combine the flexibility of belt drives with the advantages of chain and gear drives and eliminate slippage, metal-to-metal contact, stretch, and lubrication are described in 56-p. catalog from Browning Mfg. Co. (F-22)

Roller bearings—That feature a one-piece cage design are discussed in a bulletin that explains how the new design permits higher speeds than are possible with full-complement roller bearings. Bearings are available either with or without inner rings. Torrington Co. (F-23)

Air-power stapler—That features air return, high-speed piston, and constant valve action is described in illustrated bulletin that explains how the air return makes possible continuous high-speed production-line stapling with less operator effort. Signode Steel Strapping Co. (F-24)

Concrete floors—Corrosion-resistant organic and inorganic protective coatings for concrete floors are described in a coating chart that shows resistance to chemicals, thermal shock, abrasion, and temperature. Also shown are skidproof properties and cost per square foot. Carboline Co. (F-25)

Compressed-air systems—Color-coded catalog lists line of compressed-air products and features a schematic air-line layout with each type of product in place and coded for easy location in the text. Wilkerson Corp. (F-26)

Yoke-actuator switches—Data sheet describes two new oil-tight maintained-contact switches built so that the actuator causes the internal switching unit to transfer when a reciprocating member operates the switch in either direction. Micro Switch, Div. of Minneapolis-Honeywell Regulator Co. (F-27)

Adjustable-speed drives—With eddy-current coupling for 5 to 100 hp. are described in bulletin that discusses operating principle, torque capabilities, construction features, dimensions, and ratings. General Electric Co. (F-28)

Motor reducers—28-p. catalog describes construction and mechanical features of motor reducers in eight

JACOBS TIGER PAW®

U. S. PAT. OFF. NO. 688,559

VIBRATION PADS

- Fiberglas & Vinyl — the Modern Way
- Reduces Vibration over 90%

The Bullard Clark Company

SOUTHERN Division Charlotte, N. C.

JACOBS

NORTHERN Division Danielson, Conn.

VACUUM SUCTION CUPS really hold, not affected by oil, greases, or floor finishes. No messy adhesives!

THESE TIGER PAW VIBRATION PADS are one of the easiest ways in the world to reduce plant operating costs.

See for yourself, AT NO COST. Send for FREE SAMPLES TODAY!

CIRCLE 252 ON READER SERVICE CARD

LONGER, HEAVIER LAPS WITH THE LONG PNEUMATIC LAP CONTROL SYSTEM*

These systems may be applied to any existing picker. Positive, controlled air pressure on pin ends deliver uniform pressure on laps forming on calendar stack rolls—from start-up to doffing. Equally effective with both cotton and synthetics. Radical fluctuations common to old deadweight systems are eliminated. May be applied to calender rolls fluted rolls or both. Waste at ends virtually non-existant. Maintenence costs drastically reduced—up to 32 moving parts eliminated.

PROVEN ON THE JOB!

More than 350 installations have proven the efficiency of the LONG Lap Control System by consistently producing longer, heavier, higher quality laps. Many mills are producing laps up to 75#, with smaller diameters, and are handling such laps manually. Other mills with conveying equipment are making 88# laps.

*Patented U. S. Pat. Off.; Foreign patents applied for.

SEND TODAY FOR COMPLETE DETAILS AND BROCHURE

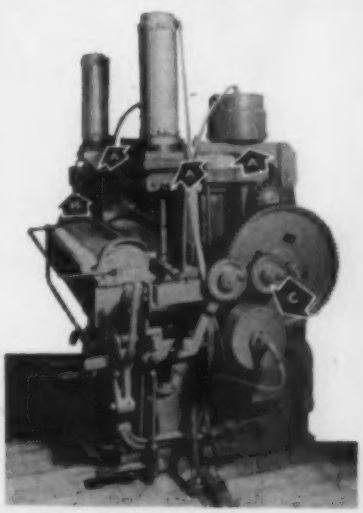


Photo above shows (A) Long Lap Control System installed on picker. (B) L&H Pneumatic Lap Pin Pusher. (C) Auto-Pneumatic picker clutch.

LIVINGSTON & HAVEN, Inc.

P. O. BOX 808-W
CHARLESTON. SOUTH CAROLINA

Representatives in all major textile areas. Address foreign inquiries to PLATT BROS. (SALES), LTD., Oldham, England.

BIGGER AND BETTER THAN EVER FOR YOU

ANNOUNCING

NEW EXPANDED AND IMPROVED PRODUCTION FACILITIES FOR THE BOND QUALITY LINE OF

TEXTILE LEATHERS and LEATHER BELTING

Charles Bond Company, since 1888 producers of the finest textile leathers and leather belting, has taken another important step to insure continued top-quality products and prompt service for the textile industry.

Bond textile leather products include:

Loom Pickers — **Flat Leather Belting**
Check Straps — **Solid Round Belting**
Lug Straps — **Leather to specifications**
Friction Leathers

QUALITY STORY:
Bond leathers continue to surpass synthetic substitutes by all standards. They last longer —reduce replacement—reduce downtime. Write for a sample of our BONDARON, "the leather with the hair on". With this leather, exclusive in the United States with Charles Bond Company, you can see for yourself how much stronger Bond leathers are.

Bond **CHARLES BOND COMPANY**
617 ARCH STREET, PHILADELPHIA 6, PENNSYLVANIA
MANUFACTURERS AND IMPORTERS SINCE 1888 QUALITY TEXTILE LEATHERS

housing sizes for applications up to 125 hp. and output speeds of 9 to 420 rpm. Philadelphia Gear Corp. (F-29)

Anticorrosive shaft seal—Made of Teflon and designed to handle all concentrations of acids, salts, oxidizing or reducing agents, including sulfuric, nitric, and phosphoric acids, is described in bulletin from Crane Packing Co. (F-30)

Aluminum roof coatings—Reinforced with fiber glass are described in brochure that explains how the material offers increased roof protection, special adhesive qualities, and interior-building cooling. The coatings can be used over new or old roofs of felt, composition, or metal. Garland Co. (F-31)

Demineralizers—Line of packaged mixed-bed demineralizers designed for process-water applications is described in bulletin that tells how to eliminate variables in water. Equipment handles up to 13,200 gals. per hr. Cochrane Corp. (F-32)

GENERAL

Carloading check chart—For wall anchored, free-floating, and controlled-floating loads is available to show shipping-room and loading-dock personnel the proper way to clean, drape, strap, and load boxcars. Signode Steel Strapping Co. (F-33)

Executive's 1960 appointment calendar—Is now available for use in planning work far in advance. Space is provided for each day's appointments, conventions, trips, etc. West Virginia Pulp & Paper Co. (F-34)

V-grooved wheel casters—For use on an inverted angle-iron track serving mechanized production lines and blind-alley operations as well as on-the-floor operations are described in bulletin from Nutting Truck & Caster Co. (F-35)

Fireproof insulated files—That safeguard magnetic tapes, tabulating cards, and other valuable business records are described in brochure that tells how some of these files survived the Pentagon Building fire in Washington. Remington Rand, Div. of Sperry Rand Corp. (F-36)

Fork trucks—Folder explains safety features incorporated in nine models of gas and liquified-petroleum-gas-powered trucks for use in hazardous operations. Special protective devices installed on battery, generator, muffler, and electrical-distribution systems are described. Clark Equipment Co. (F-37)

Casters—Two series of casters are described in brochure that covers (1) light-duty line that has wheels ranging from 1⅝ to 8 ins. in diameter with single-ball race and (2) heavy-duty double ball-bearing swivel models with capacities up to 2,500 lbs. per caster. Payson, Harris & Reed. (F-38)

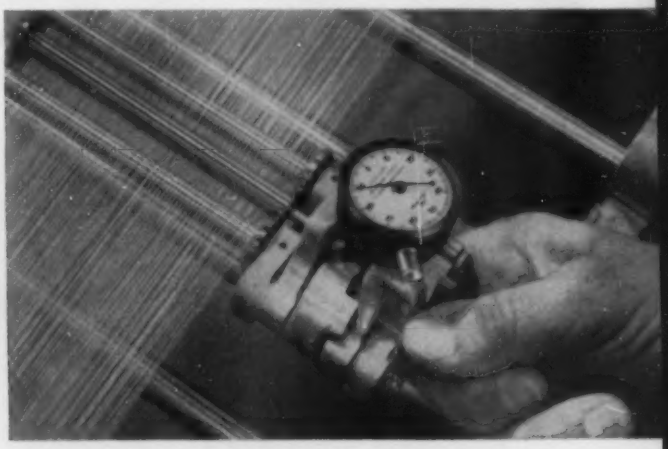
Fire protection—Illustrated catalog describes complete line of 1960 equip-

4 ways to Faultless Fabrics

THE KIDDE-SIPP STANDARD TENSOMETER has a dampening device that gives steady readings without fluctuations. This pocket-size Tensometer is made in three ranges: up to 25 grams for fine denier yarns, 125 grams for most applications, or 250 grams for heavy yarns.

THE KIDDE-SIPP HEAVY DUTY TENSOMETER is available with tension ranges of 10, 20, 30, 50 and 100 pounds. It permits the quick, accurate measurement of tensions in a strand of thread, yarn, cord or wire. It is durable, and retains its accuracy.

THE KIDDE-SIPP DENSIMETER insures equal density on packages, prevents "sloughing off" on cops and quills. It may also be used with a Tensometer to assure packages of uniform density. Operation is extremely simple, and the dial is clear and easy to read.



THE KIDDE-SIPP SLASHER TENSOMETER permits the operator to check for equal tensions in all yarn sheets, no matter how many creel beams are used. Tensions can be compared, and beam let-offs adjusted to even out differences.

Kidde-Sipp Tensometers

Here's how you can get rid of costly seconds and rejects due to faulty tension: Use a Kidde-Sipp Tensometer. One of these tension-measuring instruments is ideal for setting and maintaining proper tensions for every operation.

For prices and complete information, write to:

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

CIRCLE 169 ON READER SERVICE CARD

COTTON ACETATE VINYON
WOOL NYLON SARAN MY
SILK ORLON* POLYETHYLEN
FLAX DACRON* VICARA*
RAYON ACRILAN* GLASS
FORTISAN* TEFLON* DYNEL
POLYPROPYLENE CAPROLAN
CRESLAN* ARNEL WOOL
RAN VEREL* SIL
HH DARVAN ZE

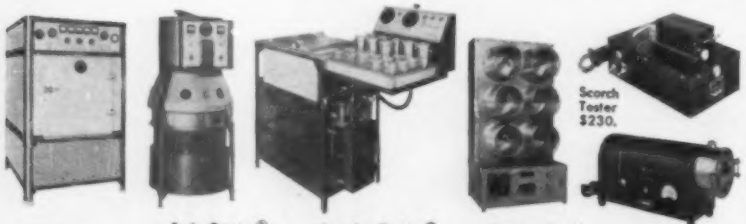
Keeping pace with new fiber development...

TESTING TELLS THE TALE with Atlas-Ometers

The introduction of so many synthetic fibers since World War II, while revolutionizing the textile industry, has presented problems concerning the color fastness, weathering properties, detergent reaction, and washing and wearing of these new fibers.

Controlled, accelerated and exactly duplicated tests with ATLAS-OMETERS will give you the answers—accurately and quickly—to new fiber vagaries. You will find that *one* ATLAS test is worth a *thousand* guesses.

Write for bulletins on ATLAS-OMETERS



Weather-Ometer® $2755 up.
Fade-Ometer® $1350 up. Complete with supplies.
Launder-Ometer® $875 complete with accessories and supplies.
Random Tumble Pilling Tester $485 to $890.
Accelerator® $485.

ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.
Sales representatives in principal cities throughout the world

ment that includes portable hand extinguishers, stationary equipment, piped systems, and large-capacity mobile equipment such as fire jeeps and trucks. Specifications, dimensions, chemical contents, and recharging equipment are covered. Ansul Chemical Co. **(F-39)**

Sales accounting costs—And how they can be slashed by electronic synchrotape typewriters that handle incoming orders, invoice writing, inventory record keeping, and sales analyses are discussed in booklet from Remington Rand, Div. of Sperry Rand Corp. **(F-40)**

NEW DESIGN METHODS

CONTINUED FROM PAGE 62

stops lay-offs on the bobbin transfer.

Another common design problem in weaving is misdraws on a fancy reed draw. Some of these reed drafts repeat on several hundred warp ends; and when an end breaks, the weaver has difficulty in redrawing the end in the correct dent.

At break-outs, it is most difficult to draw in the ends correctly. Ordinary reed drafts vary in many ways; and although they serve their purpose for records, many of them are not adequate for production uses.

Fig. 2 is a reed draft that is readily adaptable to weave-room production. It consists of a swatch of cloth with lines running from the swatch to the related entry order.

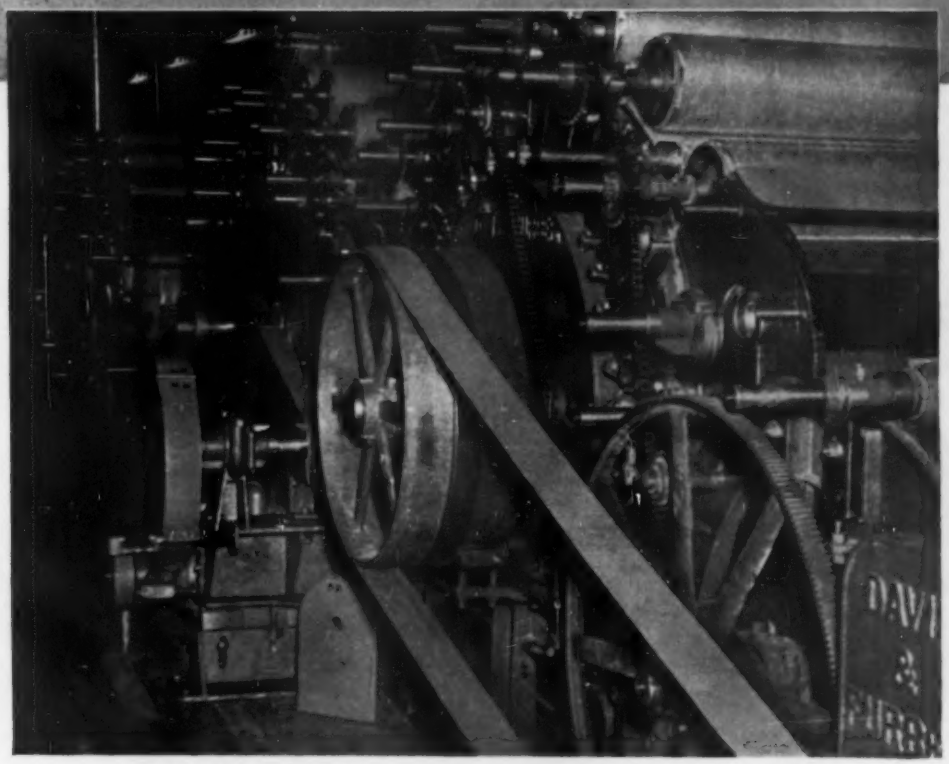
This draft is glued to a piece of cardboard so that the weaver can lay it on the cloth at the loom with the swatch stripes matching the actual stripes of the woven fabric. Thus he knows immediately where each warp end is to be drawn into the reed. In addition to saving time, he eliminates misreeds.

Weaving Face Down Is Best

Bad set marks are common to many fabrics, and their elimination is a big problem. Corrective practices that are partially effective are: (1) elimination of loom stops as completely as possible, (2) setting looms to prevent uneven tension on the two warp sheds, and (3) instructing weavers to restart a loom with the lay at a given position.

But fabric design can also do much to eliminate set marks. Fig. 3 shows

More Power to the Textile Industry



Rhoads belting gives efficient, economical performance on carding machine.

In the Textile Industry, where machine performance so often depends on smooth-running, long lasting belts — lickerin, doffer, gainer, stripper, etc., — Rhoads stands out for performance and economy.

At Rhoads, there is a flat belt that is exactly right for your operating conditions — economical in original cost and in operating cost, shock absorbing, highly efficient in speed reduction, safe, long-lasting.

Rhoads recommends the belting that is engineered to meet your needs — famous Tannate leather belting, new Texalon nylon core synthetic belting, new Tanastic nylon core leather belting. For quotations or for literature on belting or leather check straps, address: Engineering Department,

J. E. RHOADS & SONS
Wilmington 99, Delaware

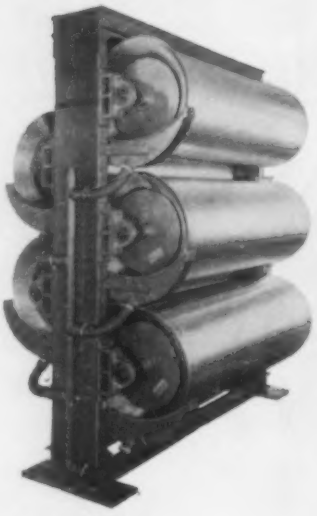
RHOADS

Established 1702 . . . Pioneers in Mechanical Power Transmission

J. E. CARROLL & CO.

PROVEN *TOPS* IN COOLING

TYPE "W" OPEN END COOLING CYLINDERS



Arranged in machine units as shown, to your specifications or used singularly. Mounts easily on existing framework and uses much less water than conventional types.

There are no sealed in chambers, all parts of the unit are exposed for visual inspection, no rotary joints are required. Goods can be cooled below room temperature without refrigerated water because of the cylinders open end construction. The usual cooling off period is eliminated and fabric finish is improved. Easily installed on calenders, embossers, tenter frames, sanforizers, heat setting units or used as a cooling pulley for conveyor belts.

A wide range of diameters and lengths are available.

CYLINDER DRYERS • PADDERS • COOLING CYLINDERS • DYE TANKS

J. E. CARROLL & CO. LOWELL, MASSACHUSETTS

CIRCLE 253 ON READER SERVICE CARD

This small and inexpensive Unitrap is more than adequate for most textile requirements and gives faster warm-up and peak machine efficiency at all times.

Low initial cost is matched by low maintenance costs. The Unitrap automatically adjusts to changes in steam pressure and condensate rates without requiring changes or adjustments of orifices or valves. This, plus in-line maintenance, stainless steel working parts, large orifices and positive valve sealing which reduces wear and wire drawing to a minimum—make the Model 70T the most economical on the market.

The universal range of the Unitrap 70T also reduces trap inventories because one size handles all of your requirements. Write for Bulletin 800W

*Trade Name - Patented

Model 70T Unitrap* up to 800 lbs. per hr. at 40 lbs. pressure

"WHERE *Good Connections* COUNT"®

PERFECTING SERVICE CO.

332 Atando Ave. Charlotte, N. C.

Baltimore—Buffalo—Camden, N. J.—Chicago — Cleveland
Los Angeles—New York—Providence —Montreal—Toronto

a 2/1 twill with novelty filling yarn; the face of the cloth is the filling-flush side of the twill.

Commonly this fabric is woven face up with one-third of the harnesses up all of the time.

But the pattern-chain draft in Fig. 3 shows two-thirds of the harnesses up all of the time. This design helps eliminate set marks because more warp ends in the top shed are controlled by the whiproll set in a raised position.

With this design, the bottom shed, which is the face, will run tight. And since two-thirds of the warp ends are slack all of the time, this shed isn't stretched and set marks at loom stops are less severe.

This arrangement is very practical for good-weaving conditions and is much more satisfactory than running an extremely low whiproll on a face-up fabric.

MILL CHECK-UP

CONTINUED FROM PAGE 64

diameter, which means that a screen has 20% of its surface in the form of air holes. Perforations of $\frac{3}{16}$-in. dia., originally developed for man-made fibers, are replacing standard screens in many mills. Sometimes ¼-in. perforations are used for long pulls since 35% of the surface is air holes and a stronger air current is possible.

The superintendent is now at the last machine in the opening line, the horizontal opener. There may be more than one unit of more than one make and model, but they are all the same in principle. As with the vertical opener, there is a beater and grid bars; the same check points are observed.

In this machine, the beater should be noticed. Dull, rounded beater blades do not clean effectively or efficiently and should be earmarked for resharpening before cleaning efficiency drops.

The superintendent backs off and stands for several minutes watching the general operation of the line. He notes that the various cleaning machines, hoppers, and reserve boxes are well coordinated. There is no continual starting and stopping of the machines that occurs when a line is

VICTOR Mill Starch

A KEESTAR PRODUCT

Preferred for 60 years
because it's backed by
Keever Service.

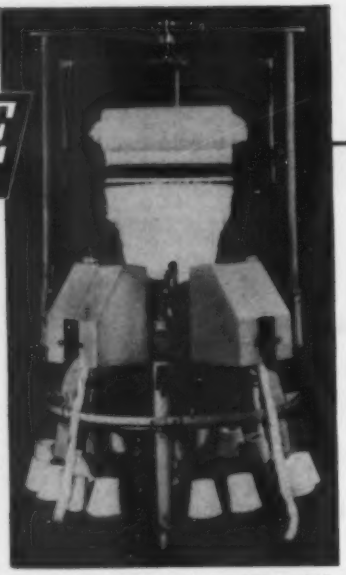
if he's a Keever Man,
he's the Weaver's Friend

THE KEEVER STARCH CO. • General Offices • Columbus 15, Ohio

Processors of corn, wheat and blended starches for industry since 1898

Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
118 SOUTH PLEASANTBURG DRIVE
GREENVILLE, SOUTH CAROLINA

here's the BIG NEWS
in producing top quality
HIGH PILE
FABRIC



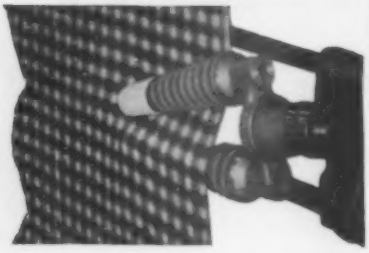
now you can make
12 YARDS PER HOUR
with four feeds

It's the new TOMPKINS S-1 JUNIOR with carding units to produce high pile material in a variety of sizes, weights and sliver content!

Available in two models with cylinder interchangeability from 12" to 28" (S-1 Jr.) and 24" to 38" (S-1 Sr.), this knitter gives you the proven quality and economy of a fully modern Tompkins circular spring needle machine. Model shown has four high pile cards and feeds, each with stop motion control, and triple stop motions in the knitting mechanism. Features a patented, gearless drive and vacuum air cleaner. *It will pay you to get full information — write, phone or stop in now . . .*

TOMPKINS BROS. CO.
623 ONEIDA ST. • SYRACUSE 4, N. Y.
Circular Spring and Latch Needle Knitting Machinery...Since 1846
CIRCLE 254 ON READER SERVICE CARD

BANISH "*Double-Trouble*"
with
Mount Hope
SELVAGE
UNCURLERS



Mount Hope Selvage Uncurlers eliminate double or turned selvages automatically, save labor — save material. Simple in design, easy to install, they are driven by the cloth itself, require little maintenance. Usable with all fabrics, whatever the type or weight.

If you are having double selvage trouble, Mount Hope Selvage Uncurlers are a "must."

For Folder and More Information write to:
MOUNT HOPE MACHINERY COMPANY
50 Fifth St., Taunton, Mass.

Men on the Move

Now available
in a *new edition* . . .
with *new figures.*

This popular booklet points up the important sales problem of personnel turnover in industry. Out of every 1,000 key men (over a 12-month period) 343 new faces appear . . . 65 change titles . . . 157 shift . . . and 435 stay put. These figures are based on average mailing address changes on a list of over a million paid subscribers to McGraw-Hill magazines.

Write us for a free copy

Company Promotion Department
McGraw-Hill Publishing Co., Inc.
330 West 42nd Street,
New York 36, New York

improperly balanced.

The steady flow of stock through the well-regulated line is a strong hint that the pickers also are operating correctly and that lap variation is well within standards. He is already thinking ahead to the picker room and can now cross off the opening line as the source of any possible trouble in the next room.

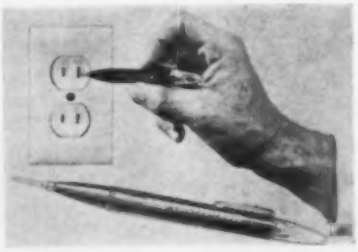
The superintendent did not take a lot of time in making this inspection because he knew how to look for symptoms of trouble. He did not check settings when a handful of stock or waste would indicate if cleaning were adequate or that the stock was being overworked. He listened for unusual noises that would be a sign of bearing failures, and he looked for irregularities in motions that might mean worn gears or broken brackets.

He now leaves for the picker room, certain that the opening line is running smoothly and should give no trouble today.

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 156

Electrical Tester



A pencil-type hand-operated tester to test any current source by direct contact has been developed by Hahn Co., 2311 Fox Hills Dr., Los Angeles 64, Calif. The tester is said to be sure and safe and prevents shocks.

The instrument tests from 110 to 550 v., a.c. or d.c. If the outlet appliance, switch, coil, etc., is live, the tester lights up. On defective devices, it indicates which side is live and which is grounded. **(Circle T-23 on Reader-Service Card)**

Electromagnetic Disk Brake

An electromagnetic disk brake with torque ranges from 30 to 7,500 ft.-lbs.

IN 1959
The SWING Was To IDEAL DRAFTING

38 U.S.A. MILLS*
BOUGHT 1284 NEW IDEAL DELIVERIES

on Individually Driven Frames
with Individual Vacuum Cleaning
with Speeds of 400 feet per minute or faster

TO BE USED ON

Carded Cotton
Comber Preparation
Finished Combed Stock
All Types Synthetics

*These include some of the finest American quality mills. Names on request.

Write for Full Information

Ideal Industries, Inc.
Bessemer City, N. C.

THE ORIGINATORS OF HIGH SPEED DRAWING

CIRCLE 175 ON READER SERVICE CARD 175

LUBRIPLATE IS THE IDEAL LUBRICANT

—say leading Textile Manufacturers

LUBRIPLATE Lubricants have won acceptance in the textile industry because even with speeds up to 25,000 R.P.M., they have exceedingly long life and do not break down. LUBRIPLATE Lubricants range from the lightest oils to the heaviest greases to meet every requirement of the textile industry.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

Selecting Chemicals To Boil Out Steam Generators

Boiler operation is frequently affected by oil contamination, which causes warping and rupture of tubes and burning of metal from localized overheating. And since no method of internal boiler-water treatment can prevent oil contamination, oil must be removed externally before it enters the boiler.

Equipment for removing oil is of two general types: (1) baffle or centrifugal separators to remove oil from steam and (2) absorbents, filters, and chemical coagulation to remove oil from liquid condensate.

Before a new boiler is put in operation, it should be cleaned thoroughly of grease, oil, and other protective coatings applied by the manufacturer and tube-expander lubricants used during erection. These contaminants are removed by chemical boil-out.

Petroleum Oils Don't Saponify

Soda ash and caustic soda saponify the compounding agents in oil. However, many oils used today have a straight petroleum base, and they will not saponify. Therefore soda ash and caustic soda are ineffective on such oils.

Because of its detergent action, sodium silicate improves the effectiveness of a boil-out mixture. But silicate may be objectionable, particularly if the boil-out mixture is not completely removed by draining and flushing, which results in undesirably high silica concentrations in operation. Sodium silicate should not be used for high-pressure units where silica vaporization and turbine-blade deposits are a problem.

Both trisodium phosphate and disodium phosphate improve the cleansing properties when they're used with soda ash or caustic soda. But with an alkaline boil-out, the possibility of intercrystalline brittleness or cracking exists even if the boil-out is relatively short. This brittleness is reduced if sodium nitrate is added.

Inorganic boil-outs are not completely effective in removing grease and oil, and it's often necessary to repeat the boil-out a second or third time to obtain reasonably satisfactory internal conditions.

The most effective results are received from a boil-out mixture of 3 lbs. of caustic soda, 3 lbs. of anhydrous disodium phosphate, and 1 lb. of sodium nitrate for every 1,000 lbs. (120 gals.) of water required to fill the boiler to operating level.

The detergent properties of alkaline inorganic chemicals can be made more effective by adding synthetic detergents or wetting agents. These materials increase the wetting power of water by reducing surface tension. Therefore this combination of chemicals breaks down the oil-sludge bond to remove oil from the metal surface.

Oil Is Dispersed Before Removal

Although oil is removed from the metal surface, it must be dispersed throughout the water so that it can be readily removed from the boiler when it is drained. The proper emulsifier keeps the oil dispersed in the water and keeps it from rising to the surface until the boiler is drained.

Most of the chemical agents used form an extensive foam, and a limitation must be placed on the amount of foam or draining through blow-down may not remove the foam from the boiler.

Also foaming in the steam drum carries over into the superheater section. Evaporation causes dryness in this section and results in deposits of solids. Therefore nonfoaming agents should be used, or an antifoam agent should be added to the boil-out mixture. Standard boil-out mixtures are available. *Richard B. Conlon, Betz Laboratories, Inc.*

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 174

has been announced by Stearns Electric Corp., 120 N. Broadway, Milwaukee 2, Wis.

The brake is spring-set and magnetically released so that it sets automatically at power failure. Positive spring action is exerted on pressure plates when the current cuts off to produce smooth, accurate stopping.

The brake is released by energizing

For Steady, Unexcelled Production Of Tricot Fabric

the 170" EXCENTRA 2-3-4 BAR TRICOT MACHINE

Day in, day out, trouble-free, efficient, continuous production of exquisite tricot fabric, mill-proved in excess of 950 courses per minute, is only one of the many advantages provided by this improved model of the EXCENTRA tricot knitter. Its low and stream-lined design provides ready access to knitting elements. It permits the widest pattern range in virtually all commercially used yarns: 15 denier monofilament nylon—40 denier unthrown nylon—all thrown nylon—Dacron—acetate, viscose, etc.

Superb engineering such as a one-piece frame construction, crank-lever power transmission and precision-crafted parts greatly minimize noise and vibration and completely eliminate distortion.

Beam flange diameters from 14" to 30" are suitable for use on the EXCENTRA. Unobstructed yarn path (on 42" centers) permits use of larger warps. All control instruments (take-up, let-off, production counter, speed indicator, etc.) are grouped compactly at pattern wheel end of machine. Standard equipment includes: Quick-stop mechanism — adjustable speed 3-phase motor—automatic yarn control signal—speed indicator—total production counter and predetermined electric shut-off counter.

- **Vibration-free single-unit welded steel frame, completely distortion-free.**
- **Knitting motion actuated by eccentrics and crank levers. No cams, cam rollers or counter cams.**
- **Knitting elements externally adjustable—for maximum convenience.**
- **Positive cloth take-up for all commercial tricot qualities and yields.**
- **Automatic power-driven let-off with indicator lamps for accurate yarn control.**
- **Tuck stitch control device supplied on request.**
- **Automatic lubrication throughout—simplified maintenance.**
- **Chain link or pattern wheel drive.**

It will pay you to know more about this efficient, economical producer. Write today for complete information.

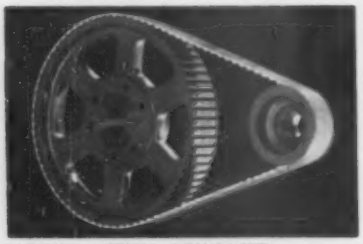
ROBERT REINER INCORPORATED

Telephone: UNion 7-0502—*From New York City call* LOngacre 4-6882.

WEEHAWKEN (Only 10 minutes from Times Square by direct bus) **NEW JERSEY**

AN HONORED NAME IN TEXTILE MACHINES SINCE 1903.

WOOD'S POWER TRANSMISSION PRODUCT NEWS



POSITIVE ACTION—LONG LIFE

Wood's Timing Belt Drives provide positive, slip-free action. Belts are all muscle. No high initial tension, tension devices or lubrication needed. Drives are light weight, compact . . . quiet and clean. Wide load and speed range. Equipped with famous Sure-Grip Bushings. Write for Bulletin 2100.

CIRCLE 262 ON READER SERVICE CARD

HIGH PERFORMANCE VARIABLE

Wood's stationary control, "VPS" Variable Speed Drives won't freeze or stick. No lubrication is needed. Speed changes are made accurately and quickly by turning an adjusting screw from either side. Initial, operating and maintenance costs are lower. Write for Bulletin 1100.

CIRCLE 263 ON READER SERVICE CARD

REVOLUTIONARY NEW VARIABLE

Revolutionary resilient cam follower construction of Wood's new "MCS" motion control, variable speed drives holds constant driven speeds under varying torque loads. Like the "MS," the "MCS" won't freeze or stick. Check oil only once or twice a year. Write for Bulletins 8102, 4101.

CIRCLE 264 ON READER SERVICE CARD

MPT/3608

Woods

T. B. WOOD'S SONS COMPANY

CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO
CLEVELAND • DALLAS

the magnet. This action causes the pressure plates to part and allows the friction linings to float freely.

The shaft of a motor or any other machinery controlled by the brake is keyed directly to the operating elements of the brake. The brake is easily adapted to a through-shaft application. **(Circle T-24 on Reader-Service Card)**

Reinforced Shuttle

A shuttle for XD looms with a vulcanized-fibre reinforcing strip firmly inserted in the wood near the eye has been introduced by Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa., Southern Shuttle Div., Greenville, S. C. This reinforcing strip prevents shuttle splitting. The shuttle is designed for the No. 903-eye dogwood shuttle. **(Circle T-25 on Reader-Service Card)**

Cross Winder

A cross winder that requires only one-third as many operators for a given number of spindles has been announced by Schweiter Ltd., Horgen (Zurich), Switzerland. One operator can run 4 to 12 of the Type 10 Multi-Coner machines, or 32 to 96 spindles. Work assignment depends on the yarn number and size of cop being made.

Cops constantly pass the knotter where broken ends are automatically pieced up. Cones are in easy reach of the operator for doffing, and cops are changed automatically. Yarn speed is adjustable from a central stepless drive. **(Circle T-26 on Reader-Service Card)**

Cotton Colorimeter

A cotton colorimeter that indicates grade directly on an illuminated 13x-13-in. plate has been announced by Special Instruments Laboratory, Inc., 312 W. Vine Ave., Knoxville, Tenn.

The indication is said to be accurate within 0.2% (in Hunter Rd and b terminology) over a period of several days without calibration. Daily calibration increases accuracy for 8 hrs. to more than 0.1%.

Calibration is done with logging dials that can be locked to discourage knob twiddlers. Only two minor adjustments are made for day-to-day calibration.

The machine, mounted on wheels, weighs about 350 lbs. **(Circle T-27 on Reader-Service Card)**

Utility Truck

A lightweight low-cost all-steel welded-construction utility truck has been announced by Fairbanks Co., 393 Lafayette St., New York 3, N. Y. Specifically engineered for easy-to-handle maneuverability, this Mitey Handy utility truck has a load-easing stair climber on an exceptionally lightweight, sturdy one-piece frame.

The one-piece frame with full-width, full-size handle permits an operator to hold or move the truck with one hand and leaves the other hand free for opening doors, pushing elevator buttons, or pulling door cords. Curved crossbars facilitate easy handling of both round and square objects. **(Circle T-28 on Reader-Service Card)**

Box Truck

A practically indestructible lightweight glass-fiber box truck that is impervious to steam, water, oil, mild acids, and alkalis has been announced by Nutting Truck & Caster Co., 1201 W. Division St., Faribault, Minn. **(Circle T-29 on Reader-Service Card)**

Improved Flocculant

An improved polyacrylamide-type flocculant marketed as Separan NP10 has been announced by Dow Chemical Co., Midland, Mich. Textile applications are principally in water-treatment plants to speed up flocculation and to improve water clarity. **(Circle T-30 on Reader-Service Card)**

Carton Stapler

Filled cartons may be closed along the top seam or set up with a stapler marketed by Container Stapling Corp., P. O. Box 247, Herrin, Ill. The machine is manually operated and can be supplied to handle clips ½, ⅝, and ¾ in. long. **(Circle T-31 on Reader-Service Card)**

why is Wood's the industry's newest, yet most widely specified Card Drive?

Because Wood's Card Drive is simple, smooth-starting and dependable. Because it costs less to operate and less to buy than any other individual card drive available. Because it offers all of the advantages of individual card drives without clutches or gear reducers to adjust or maintain. If you haven't already done so, be sure to investigate Wood's Card Drive.

Wood's

write for bulletin 6100

T. B. WOOD'S SONS COMPANY • CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS CD/160

"Styles change fast, so
we move fast,
via Delta Air Freight!"

Florida Fashions Co. (Orlando, Florida) keeps abreast of style changes by supplying its faraway outlets on a 24-hour basis and avoids overstocking.

"Even the sudden exit of the sack dress didn't catch us overstocked," reports M. C. Albrecht, Vice President Operations, "we use Delta Air Freight five days a week to meet the demand for new styles, so we don't have to risk carrying large inventories. We have expanded our marketing area, too, competing in places accessible to us *only* by Delta Air Freight."

Profit from Delta's BIG PLUS

Delta operates all-cargo flights and in addition carries freight on every passenger flight, including Jets. All-cargo flights serve Atlanta • Chicago • Cincinnati Charlotte • Dallas • Houston • Miami New York • New Orleans • Orlando Philadelphia • Tampa

Delta AIR LINES
AIR FREIGHT
DOOR-TO-DOOR

GENERAL OFFICES: ATLANTA AIRPORT, ATLANTA, GA.

How To Clean Rub Aprons

• Dirty rub aprons on woolen cards can cause poor work and loss of efficiency. Here are several ways of removing animal grease, bleaching powder, and dye stains from rubber and leather—

By ARTHUR CARPENTER

IF RUB APRONS ON WOOLEN CARDS are not cleaned carefully at regular intervals, a serious loss of condensing efficiency is likely to occur. The main causes of dirty aprons are animal grease, bleaching powder, and loose dye.

Grease can be removed from rubber aprons by cleaning them with 1 pt. of Oakite dissolved in 2 gals. of warm water. The solution is applied while the card is in production.

When the solution is first applied, the roving ends break and form laps around the aprons. These wet laps absorb grease and hasten the cleaning operation. With stock coming through the card, very little of the solution gets on the tapes and no damage is done to the leather.

For breaking the hard laps in hard-to-reach places, a piece of card clothing securely fastened to a long flat stick can be used to reach up under the aprons of the two bottom decks. The best time for this cleaning operation is immediately after stripping, when waste spools must be made anyway. The wet greasy waste can be labeled and sent back to the blending room to be mixed in the next blend.

If bleaching powder in the blends coats the tapes and aprons with a slick film of dust, use the same Oakite solution and method. Always apply the solution to the aprons just before stripping time so that the solution can soak into the contaminant.

Dye Stains Are a Problem

Dye stains are a serious problem and are often difficult to remove entirely. A liquid soap or detergent applied warm to aprons just before stripping the card helps. At the same time, a heavy application of warm neat's-foot oil or a good-quality No. 1 lard oil should be put on the leather tapes. The oil and soap penetrate and clean better when they are warm.

If after this treatment there is still a stain in the roving that will not wash out, repeat the operation. In stubborn cases, run about 100 lbs. of clean white waste heavily soaked with soapy water through the card. This action should remove all stains from both tapes and aprons, and the method can be used on either leather or rubber aprons. Oakite, kerosene, or cleaning fluid should never be used on leather.

Emery dust from grinding that will not wash out can be easily eliminated by running a large amount of the web on the floor at the tape doffer until all dust is removed from the card wire. Once the emery dust gets into the tapes and aprons, it is hard to remove entirely.

How To Prolong Apron Life

Here's a method of cleaning and prolonging the life of double-rub condenser aprons:

Cut a piece of 1½- or 2-in. aluminum tubing in apron-length sections, and bore ⅛-in. holes 4 to 6 ins. apart all over the surface of the tube. Close one end of the tube permanently, and put a removable plug in the other end. Cover the tube with two layers of woolen flannel.

Fill the tube with Oakite solution if the aprons are rubber or with neat's-foot oil or good No. 1 lard oil if the aprons are leather. Lay the filled tube in the gap between the two sections of aprons. The solution will slowly seep out on the aprons and keep them moist and clean. The tiny amount of Oakite or oil that gets into the roving will be so widely dispersed that it can do no harm.

For maximum uniformity, dependability

TORRINGTON EXCELSIOR STRUCK GROOVE® NEEDLES

—with the Lustorr finish

Uniform high quality of Torrington Excelsior Struck Groove Needles insures maximum needle efficiency and dependability—even in the newest synthetic and wash'n'wear fabrics. You get smoother, stronger seams and lower operating costs. Standardize on Torrington and benefit from top-quality stitching *every* time. Call or write your nearest Torrington office today.

Smoother, narrower, Lustorr-finish point penetrates more easily, assures straighter, more uniform stitches

Greater thread-bearing surface at upper eye guarantees maximum thread protection . . . less thread breakage

Tougher temper means less needle breakage, longer wear, fewer staggered or skipped stitches

Short groove with smaller radius insures positive loop pickup under all conditions, eliminates skipping

THE TORRINGTON COMPANY

Established 1866

Torrington, Conn., U. S. A.

Bedford, P. Q., Canada • Coventry, England • Genoa, Italy

Branches to serve you are located in: New York · Philadelphia · Chicago · Boston · Greensboro, N. C. · Atlanta · St. Louis · Toronto, Ontario, Canada
Broadgate House, 7-10 Eldon St., London E. C. 2, England · Pacific Coast Representative: E. G. Paules, 1762 W. Vernon Ave., Los Angeles 62, Calif.

TORRINGTON MEETS EVERY NEEDLE NEED: SEWING · KNITTING · TUFTING · FELTING

GREATER PROTECTION to your AIR LINE!

M-B

AUTOMATIC WHIRL-A-WAY AIR LINE FILTER MODEL W-1 and TRAP

RIBBON TYPE FILTERING UNIT removes solids .00039 and larger. Transparent plastic bowl makes filtered foreign matter visible. Gives maximum protection to all types of Lint blowers, Blow-off Hoses and various air-operated controls.

The TRAP ejects water automatically. Operates upon accumulation of 3 to 4 ounces. Discharges in less than 5 seconds. Assures dry air in pneumatic system at all times. Non-corrosive throughout.

M-B PRODUCTS
46 VICTOR AVE., Div. 11
DETROIT 3, MICHIGAN
CIRCLE 255 ON READER SERVICE CARD

J. E. SIRRINE COMPANY

Engineers Since 1902

Textile Mills & Finishing Plants
Water Supply
Waste Disposal
Steam & Hydro Power Plants
Appraisals
Pulp & Paper Mills
Surveys & Reports

GREENVILLE,
SOUTH CAROLINA

Conveyor in Knitting Mill Ups Shipping Output 35%

• Shipping finished knit goods for three knitting mills from one shipping and storage room was made possible by a new conveyor system that increased over-all output 35%.

AN ENGLISH HOSIERY AND KNITWEAR MILL recently reorganized its warehouse and storage system to increase shipping output 35% without adding to its work force. The new system was installed at Cox, Moore & Co. Ltd., Long Eaton, Derbyshire, and was handled by the mill's work-study manager.

The company has three mills in the same general area, and the range of knitted garments in each mill is extremely varied in style, quality, and color.

Goods Are Moved on Trolleys

The new warehouse area was made possible by eliminating storage of raw materials, which are now bought from a new nearby supplier. The new section consists of two large rectangular rooms, one at basement level and one at the ground floor.

The finished goods are brought into the ground-floor area on large wood trolleys. After goods are inspected and measured on a large semicircular bench, they are returned to their trolleys. Then they are taken by a 56-lb.-capacity elevator to the basement, where they are placed in racks according to style and size.

The method of making up orders is very simple even though there's a large range of garments. A copy of each order is made individually, and the foreman gives each order to a girl for her to complete.

Items are divided into lots; and the girl fills in the details on a standard form, relates the form to the order number, and places it on a lot of goods.

Lots are placed on a 2½-ft.-square plywood tray. Then they are sent up to the ground floor on the elevator, which can be operated from both floors. The elevator opens at the first section of a ground-floor conveyor, and the tray is pulled out easily onto a roller conveyor.

This conveyor is in three sections and forms a long S-shape flow from the northwest corner of the room to the southeast corner. Girls working on each side of the first curved section of the conveyor attach identification tickets to all garments and then return the trays to the conveyor.

At the end of this section, the trays are transferred by hand to storage benches, where a man selects the correct tickets and distributes the lots without the trays to a straight middle section of the conveyor. At this section, several girls further select the shipping lots. Each girl has several trays. She places the correct tickets on the garments by hand or with a machine. Then she returns the full trays to the conveyor.

Goods Return to Point of Entry

From the conveyor, a girl transfers the goods to racks. Domestic and export orders are separated. Each garment is examined again and is inserted in a polyethylene bag.

As goods are passed forward, domestic orders are on one side and export orders are on the other. Girls place the orders in cardboard boxes and write the contents in pencil. Then the conveyor passes a girl typist who makes out the final contents list, sticks it over the pencil writing, and slides the boxes back on the conveyor for packing and wrapping.

The completed orders are checked. A copy of the order acts as an invoice and is inserted in one of the packages. Then the packages are placed at the adjoining dispatch area, which is near the point the goods originally entered the building.

Based on information supplied by British Productivity Council

NEW AUTOMATIC SPOOLER

TYPE "F"

BARBER COLMAN

DESIGNED FOR MODERN SPOOLING FROM LARGE BOBBINS TO LARGE CHEESES

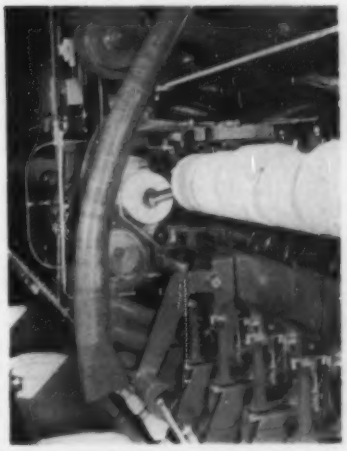
The best features of preceding machines have here been combined with many modern improvements to produce this latest and greatest of Barber-Colman Automatic Spoolers. Increased capacity permits spooling of cheeses up to 6½ lbs. from bobbins up to 12¼" long. Bobbin pockets with movable skewers are lengthened and improved. Permanently-balanced bakelite drums have new crossover double grooves. Quick-set snick plates, one of the finest yarn cleaners ever developed, are easily accessible. Double cheese-supporting arms have built-in brakes. A radical new feature is an automatic sorter that separates empties from tailings bobbins, eliminating any further handling of bobbins after placing them in the pockets. Another valuable innovation is a tape-breaker mechanism, a simple device that greatly improves the build of the cheese. By using the 6½ lb. cheese, production improvements can be achieved in warping, doubling, twisting, backwinding, sale cones, knitting, unifil, shuttleless looms, or quillers. *For full information on how this new Spooler can benefit you, see your Barber-Colman representative.*

SEE IT AT...

AMERICAN
TEXTILE MACHINERY
EXHIBITION

ATLANTIC CITY

NEW JERSEY
MAY 23-27, 1960



Above, a close-up view of traveler moving along the cheese row, picking up the ends from the bobbins and tying them to the cheeses.

"EVERY KNOT A TRUE WEAVER'S KNOT"

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

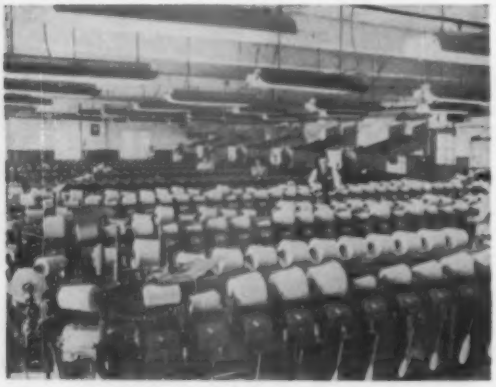
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA	MEXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Industria e Comercio de Maquinas S. A. Avenida Rio Branco No. 50, Rooms 1201/3 P. O. Box No. 63 Rio de Janeiro, Brazil	Do-Yei Shoji Kabushiki Kaisha Atlas Building (7th Floor) 11, Bingo-machi, 3-chome Higashi-ku, Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan

ABBOTT MACHINE CO., Inc.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.



AUTOMATIC CONE OR TUBE WINDERS—for winding all types of spun yarns on cones or tubes for Warping, Dyeing, Twisting, Quilling, Knitting or Sales Packages.

SPECIAL WINDING UNITS FOR KNITTING CONES—include a new slub catcher and a new waxing attachment, which uses standard size commercial wax disks.

LARGE PACKAGES—can be wound up to 11½ inches in diameter for use on shuttleless looms and looms that require a cone supply.

MODEL I AUTOMATIC QUILLER—for coarse count cotton, worsted, wool and other spun yarns, delivers full loom bobbins automatically into boxes, onto pinboards, on wide belt conveyor for inspection of bobbins, or into specially made magazines for automatic loom feeder.

MODEL II HIGH SPEED AUTOMATIC QUILLER (10,000 R.P.M.)—for winding fine count cotton and synthetic yarns of either spun or filament construction.

Also delivers full loom bobbins automatically into boxes, onto pinboards or wide belt conveyor for inspection of bobbins.

Under some conditions one operator can run two or three machines and produce upwards of 2500 full loom bobbins per hour.

ABBOTT FULLY AUTOMATIC RADIAL QUILLER, MODEL II—especially designed for flexibility, is very versatile and particularly well adapted for winding numerous small lots of filling.

Winds coarse or fine count cotton, worsted, wool, rubber and various synthetic yarns, either spun or filament.

Automatic delivery of full loom bobbins onto pinboards, wide belt conveyor for inspection of bobbins, into baskets or other type containers.

Automatic delivery of bobbins can also be supplied whereby full loom bobbins from the individual cones and spindles are delivered into separate containers, which is highly desirable for loom finish yarns and the like.

The Radial Quiller can also be equipped with measured yardage attachments to give accurate, uniform bobbin yardage, as required for two-shuttle looms.

A wide range of spindle speeds for approximately 1000 R.P.M. to 10,000 R.P.M. is obtainable.

One operator can run several machines and thus produce up to 2000 loom bobbins, or more, per hour.

NEWS ABOUT SUPPLIERS

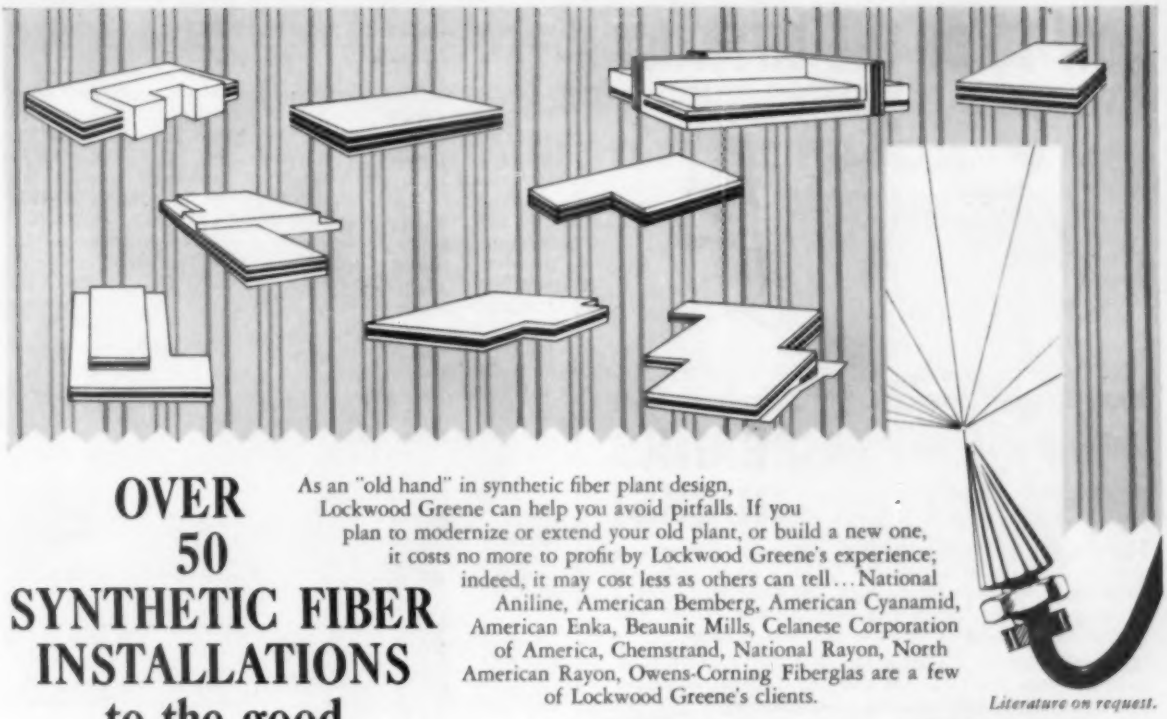
AKRON SPOOL & MFG. CO., High Point, N. C.—Has bought all assets except the land and buildings of L. C. Smith Bobbin Works, Phillipsburg, N. J. . . . **ALLIED CHEMICAL CORP.,** New York, N. Y.—Has promoted W. F. Ferrazano to product manager of textile dyes for the National Aniline Div. . . . **ALLIS-CHALMERS MFG. CO.,** Milwaukee, Wis.—Has named P. W. Clark manager and W. E. Korsan assistant manager of the Industrial Systems Dept. . . . **AMERICAN TEXTILE MACHINERY ASSOCIATION,** Vienna, Va.—Has re-elected W. K. Child, vice president of Draper Corp., Hopedale, Mass., president. J. H. Bolton, Jr., vice president of Whitin Machine Works, Whitinsville, Mass., has been elected vice president, succeeding Robert Leeson, president of Leesona Corp., Providence, R. I., who remains on the board as head of Div. V. F. G. Brigham, Jr., treasurer of Saco-Lowell Shops, Boston, Mass., has been re-elected treasurer.

ROBERT E. DRONEY (left) has been named product manager for Lurex metallic yarns for Dow Chemical Co., Textile Fibers Div., Warwick, Va. W. J. MORTON (center) has joined the sales force of Althouse Chemical Co., Reading, Pa., with headquarters in Greensboro, N. C. J. H. ELSINGER (right) has been named district manager of a new sales district for Signode Steel Strapping Co., Chicago, Ill., with headquarters in Jacksonville, Fla.

ARMOUR INDUSTRIAL CHEMICAL CO., Chicago, Ill.—Has appointed Robert Strain industry manager for polymer and surfactant chemicals. . . . **LOUIS P. BATSON CO.,** Greenville, S. C.—Has been named by Southeastern Loom & Machine Works, Greenwood, S. C., as selling agent for Southeastern's textile and foundry parts. Louis P. Batson Co. has also announced that Royce L. Cannada has been named a textile-products representative. . . . **CIBA PRODUCTS CORP.,** Fair Lawn, N. J.—Has named D. M. Joseph vice president and general manager. . . . **COLTON CHEMICAL CO., DIV. OF AIR REDUCTION CO., INC.,** Cleveland, Ohio—Has named C. P. Albus to the polymer-research group. . . . **DIXON CORP.,** Bristol, R. I.—Has bought the complete machine-shop facilities of Southern Spindle & Flyer Co., Charlotte, N. C., and has taken over plant operations. Southern Spindle & Flyer Co. will retain its company name and will continue the moving, overhauling, and trucking of machinery under present management.

DRAPER CORP., Hopedale, Mass.—Has named Jean Parmentier sales representative for Northern Germany. . . . **E. I. DU PONT DE NEMOURS & CO., INC.,** Wilmington, Del.—Has appointed R. C. Myers director of the Packaging Sales Div. H. C. Broems, Jr., has been named director of the Industrial Sales Div. of the company's Film Dept. . . . **DURANT MFG. CO.,** Milwaukee, Wis.—Has named M. R. Snyder Co. sales representative in North and South Carolina for the Durant line of instrument and industrial counters. . . . **EASTMAN CHEMICAL PRODUCTS, INC.,** New York, N. Y.—Has appointed Harry Walker Smith assistant manager, sales service (staple fibers), reporting to John M. Heape, manager. . . . **GARLAND MFG. CO.,** Saco, Me.—Has named W. F. Hurley and H. W. Harrison (Hurley & Harrison, Inc.), Greenville, S. C., representative for all Garland textile products.

GENERAL ANILINE & FILM CORP., New York, N. Y.—Has moved its home office in New York City to larger quarters at 111 W. 50th St. . . . **GENERAL ELECTRIC CO.,** Cleveland, Ohio—Has named H. J. Chanon manager of the company's Carolina sales district for the Large Lamp Dept. L. T.



OVER 50 SYNTHETIC FIBER INSTALLATIONS to the good

As an "old hand" in synthetic fiber plant design, Lockwood Greene can help you avoid pitfalls. If you plan to modernize or extend your old plant, or build a new one, it costs no more to profit by Lockwood Greene's experience; indeed, it may cost less as others can tell... National Aniline, American Bemberg, American Cyanamid, American Enka, Beaunit Mills, Celanese Corporation of America, Chemstrand, National Rayon, North American Rayon, Owens-Corning Fiberglas are a few of Lockwood Greene's clients.

Literature on request.

LOCKWOOD GREENE
ENGINEERS • ARCHITECTS

316 Stuart Street
BOSTON 16, MASS.

41 East 42nd Street
NEW YORK 17, N.Y.

Montgomery Building
SPARTANBURG, S.C.

Over a Century of Industrial Plant Design Experience.

CIRCLE 261 ON READER SERVICE CARD

WATCH FOR THESE

TEXTILE WORLD

SPECIAL EDITORIAL FEATURES IN 1960

MARCH—Textile Chemical and Finishing Progress Report. Dyes, chemicals, finishes and processes for greater profits in 1960.

APRIL—Knitting. New yarns, fabrics, finishes and machines for knitting profits in 1960.

MAY—American Textile Machinery Exhibition. Pre-short. Dyes, chemicals, finishes and processes for greater

JUNE—Electrical Modernization. Present state of electrical equipment, what modernization of processing equipment means in regard to additional electrical equipment and other data vital to intelligent planning.

JULY—American Textile Machinery Exhibition. Complete report of the show—outstanding developments and trends.

MID-JULY—Fact File Issue. Unduplicated hand-book data on supervision, engineering, manufacturing and chemical-treatment. Reader-tailored.

AUGUST—Man-Made fibers 1960. Twelve months interim report on new fibers, modified fibers and experimental fibers.

SEPTEMBER—Southern Textile Exposition. Pre-show issue—exhibitors in Greenville and what is to be shown.

OCTOBER—Annual modernization plus pre-AATCC and pre-Chemical Finishing Conference issue.

NOVEMBER—Southern Textile Exposition. Complete report of the Greenville show—outstanding developments and trends. Also report on AATCC and Chemical Finishing Conference.

DECEMBER—Fabrics of Man-Made Fibers and Blends. Data table on important commercial fabrics with details on fibers, blends, finishes and end-product characteristics.

CIRCLE 185 ON READER SERVICE CARD

HOW TO DO THE DIFFICULT

Have happier workers and a happier boss both achieved by use of FAIRBANKS COST-CUTTER TRUCKS!

Just think of trucks as tools. Then you instantly recognize that the right trucks must make lighter work of materials handling. Your men with the right tool—the right truck—do more with less effort and with *greater safety*. You realize surprisingly large time and cost savings.

YOURS ON REQUEST: Big colorful catalog, #T-54, describes most complete line of trucks and applications. Write for your free copy of this valuable catalog today.

THE FAIRBANKS COMPANY

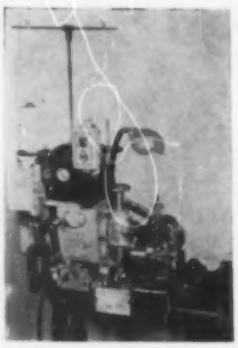
Executive Office—393 Lafayette St., N. Y. 3, N. Y. • **Branches**—520 Atlantic Ave., Boston 10, Mass. • 393 Lafayette St., N. Y. 3, N. Y. • 15 Stanwix St., Pittsburgh 22, Pa. • 202 Division St., Rome, Ga. • **Factories**—Rome, Georgia and Binghamton, N. Y.

CIRCLE 256 ON READER SERVICE CARD

NEW MODEL #11-B.V. #25

- Fine Stitch on Selvage
- Coarse Stitch in Center

The fine stitch on the selvage is used to prevent the selvage from rolling back at the seam of the goods; with the coarser stitch in the body of the cloth so as not to slow down the time in stitching the seam.



This combination can make several different types of stitching, such as:

5 stitches in the center and 15 stitches on the selvage
5 stitches in the center and 10 stitches on the selvage
7 stitches in the center and 21 stitches on the selvage
7 stitches in the center and 14 stitches on the selvage

We can give you two or three times as many stitches per inch on the selvage as in the body of the cloth.

DINSMORE MANUFACTURING CO.
Box 267 Salem, Mass.

NEWS ABOUT SUPPLIERS Continued

Jester, Jr., has been named manager of the newly established Process Machinery Industries Sales Unit in the company's Component & Intermediate Distribution Sales Dept. of the Apparatus Sales Div. . . . **GENERAL MILLS,** Kankakee, Ill.—Has named H. L. Ritell New York district sales manager for the Chemical Div. . . . **HARTFORD MACHINE SCREW CO., DIV. OF STANDARD SCREW CO.,** Hartford, Conn.—Has promoted J. F. Miller from general sales manager to vice president in charge of sales. M. J. Perrin has been named vice president in charge of manufacturing. . . . **HYSTER CO.,** Portland, Ore.—Is planning to build additional manufacturing and office facilities at Danville, Ill. The Danville Plant No. 2 will be enlarged by 115,000 sq. ft. Completion is scheduled for October.

BECCO CHEMICAL DIV., FOOD MACHINERY & CHEMICAL CORP., Buffalo, N. Y., has started building this new distributing center in Lyndhurst, N. J.

LEESONA CORP., Providence, R. I.—Has named R. S. Cox supervisor of parts sales. He succeeds T. F. Curran, who has retired. . . . **MOUNT HOPE MACHINERY CO.,** Taunton, Mass.—Has started building a new manufacturing plant in Charlotte, N. C. Completion is expected this spring. . . . **POLYMER SOUTHERN, DIV. OF POLYMER INDUSTRIES, INC.,** Greenville, S. C.—Has named J. B. Carpenter, Jr., technical sales representative. He will represent the division throughout Virginia and North Carolina. . . . **PENICK & FORD LTD., INC.,** New York, N. Y.—Has announced that its starch-derivative producing plant in Cedar Rapids, Iowa, is now on stream. . . . **PENNSALT CHEMICALS CORP.,** Philadelphia, Pa.—Has named G. D. Grogan general sales manager of its Industrial Chemicals Div. He succeeds G. R. Lawson, who has been appointed general manager of the Chemical Specialties Div. The Industrial Chemicals Div.'s marketing activities are being expanded; and as part of the process W. G. Kayser, Jr., has been named sales manager of organic chemicals, a newly created post. A. F. Bixby has been named manager of sales for the division and M. P. Binns has been named product manager. . . . **H. K. PORTER CO., INC.,** Pittsburgh, Pa.—Has bought over 90% of the stock of Patterson-Sargent Co., Cleveland, Ohio, and will operate it as a subsidiary. E. J. Balogh has been named general sales manager of the new subsidiary.

PUTNAM CHEMICAL CORP., Beacon, N. Y.—Has named Jack Moss technical sales representative assigned to the New England territory. . . . **RED-RAY MFG., INC.,** Cliffside Park, N. J.—Has licensed Selas Gas & Engineering Co. Ltd., Manchester, England, to manufacture and market Red-Ray infrared gas burners in the United Kingdom and Europe. . . . **RIDGE TOOL CO.,** Elyria, Ohio.—Has elected W. L. Parcell executive vice president. . . . **SKF INDUSTRIES, INC.,** Philadelphia, Pa.—Has started a $2-million expansion project at its division, Tyson Bearing Co., Massillon, Ohio. Completion is scheduled for July. . . . **SCOTT & WILLIAMS, INC.,** Laconia, N. H.—Has named The Torrington Co., Torrington, Conn., distributor for flat parts in its hosiery machines. Torrington will serve as distributor for the parts in the United States and Canada.

SIGNODE STEEL STRAPPING CO., Chicago, Ill.—Has

FOR ABSOLUTE ACCURATE BUFFING OF SPINNING ROLLS

DRONSFIELD'S ROLL GRINDING MACHINE NO. 270 WITH HYDRAULIC TRAVERSE

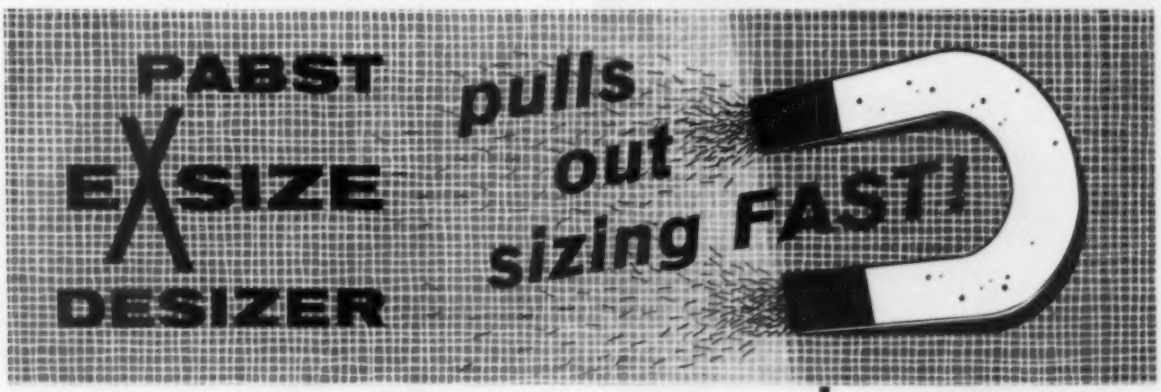
Friction Driving Attachment No. 269 for use with Grinding Machine No. 270

This attachment has been designed for holding and driving rollers fitted with ball or needle bearings (without removing the shells) whilst being ground on the Dronsfield's Roller Grinding Machine No. 270.

Enquiries to—Messrs. Cotton-McCauley & Co. Inc.
3, Hammond Street, Greeneville, S. C. *and* 188, Main Street, Pawtucket, R. I.

DRONSFIELD BROTHERS LIMITED - ATLAS WORKS - OLDHAM - ENGLAND

CIRCLE 270 ON READER SERVICE CARD



Pabst Exsize takes the starch out of cotton fabrics in a hurry! That's because its built-in heat stability makes Exsize work especially well in high-speed desizing ranges. It's uniform too. Every lot is carefully controlled for uniform enzyme activity and always gives you the same safe, speedy action. Order Exsize soon for the best finishing you've ever had.

SAFE · SURE · DEPENDABLE

Write for free Desizing Manual

PABST BREWING COMPANY
Industrial Products Division
MERCHANDISE MART · CHICAGO 54, ILLINOIS

CIRCLE 187 ON READER SERVICE CARD

JOHN P. NISSEN, JR., COMPANY
P. O. BOX 888 • GLENSIDE, PENNSYLVANIA • U. S. A.

• *for marking*

silk • plush • wool
nylon • rayon • cotton
orlon • worsted • underwear • jersey cloth
mixed goods

• *in dye houses*
• *bleacheries*
• *textile mills*

Cable Address "NISSEN" PHILA.

BALL | POINT

Nissen
all-purpose
marking inks

dye resist • fulling
bleach proof • caustic proof

writing | tubes

JOHN P. NISSEN, JR., CO.
Manufacturers • Textile Marking Inks
Glenside, Pa.

TRADE MARK REGISTERED

CIRCLE 257 ON READER SERVICE CARD

DOUBLE RUB, FOUR BANK TAPE CONDENSER

Built in 48", 60", 72" widths for adaptation to all carding machines. Write for information.

Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25

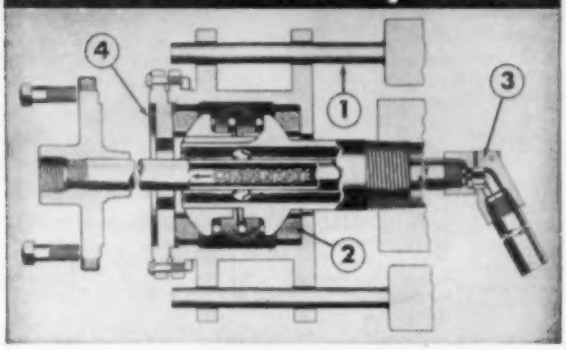
announced that its division, Paslode Co., Chicago, has bought all the assets of Crofoot Co., manufacturer of staples and stapling equipment, Mount Prospect, Ill. . . . **SNAP-ON TOOLS CORP.,** Kenosha, Wis.—Has named Irving Johnson national equipment-sales manager. . . . **A. E. STALEY MFG. CO.,** Decatur, Ill.—Has promoted H. H. Hise from the position of purchasing agent to division manager. The company has also announced that J. H. Beaumont has been named assistant manager of the Corn Div. . . . **STEWART-WARNER CORP.,** Chicago, Ill.—Has named R. F. Burke advertising manager for its Alemite & Instrument Div. . . . **SUN CHEMICAL CORP.,** New York, N. Y.—Has bought Facile Corp., Paterson, N. J., in a cash transaction. Facile produces special laminated materials.

FLETCHER SOUTHERN, INC., Southern Pines, N. C., has opened this new addition that doubles the size of the present facilities.

JAMES TALCOTT, INC., New York, N. Y.—Has appointed P. R. Wiggins senior new-business consultant. D. E. Grow has been named to the newly created post of sales manager of the Industrial Time Sales Div. . . . **TAMAY CHEMICAL PRODUCTS CO.,** Woonsocket, R. I.—Has named J. W. Mason sales and technical representative. . . . **TAYLOR FIBRE CO.,** Norristown, Pa.—Has appointed R. L. Smith district manager of the Rochester, N. Y., sales office. . . . **UNITED STATES STEEL CORP.,** Pittsburgh, Pa.—Has appointed Louis W. Mason general manager of sales for the company's National Tube Div. He succeeds R. E. Williams, who has been named vice president of sales for the division. W. C. French, Jr., has been named sales manager for the Eastern area of the Division. . . . **U. S. TEXTILE MACHINE CO.,** Scranton, Pa.—Has announced that the officers of the company have acquired controlling interest in the company by buying the majority stock from the estate of the late Herbert Gleitz, former president. The company has also announced the formation of a new division, the Utex Products Div., that will provide a single source of supply for machinery and equipment with a technical- and engineering-assistance program.

WARNER & SWASEY CO., Cleveland, Ohio—Has promoted H. W. Geyer to general superintendent of the Cleveland plant. Peter Rusnov has been named chief industrial engineer. . . . **WATSON & DESMOND,** Charlotte, N. C.—Has announced that J. M. Gayle is now associated with Watson & Desmond Machinery Co. and Watson & Desmond, Inc. . . . **WHITING PRODUCTS,** Camden, S. C.—Has named J. R. Owen production manager. . . . **WICA CHEMICALS, INC.,** Charlotte, N. C.—Has named E. P. Lavoie general sales representative. . . . **WYANDOTTE CHEMICALS CORP.,** Wyandotte, Mich.—Has named J. U. Wolter assistant manager of the industrial-organic chemicals department for the Michigan Alkali Div. R. M. Lawrence has been appointed resident sales representative for the division. He is assigned to the company's Western-district headquarters in Chicago, Ill. His territory includes Missouri, Oklahoma, Kansas, and Colorado. . . . **YALE & TOWNE MFG. CO.,** Philadelphia, Pa.—Has promoted G. A. Tamblyn to assistant general sales manager, industrial trucks, of Yale Materials Handling Div.

For service on Dry Cans and 30" Slasher Cylinders



Type LJSP with Syphon Elbow

Johnson ROTARY PRESSURE **Joints** First in the Textile Industry

1. Support rods carry all the real weight. Sealing assembly "floats" freely inside. **2.** Seals without packing—needs no lubrication or adjusting. **3.** Syphon elbow replaces clumsy curved syphon pipe with two straight pipes, passes right through joint. **4.** Assembly plate holds parts in place when head is removed.

Write for Catalog J-2002

Shows Johnson Joints for all needs, on dry cans, print cans, calenders, compressive shrinkage ranges, 5' and 7' cotton slashers, etc.

THE JOHNSON CORPORATION
814 Wood St., Three Rivers, Mich.

CIRCLE 258 ON READER SERVICE CARD

Precision-Balanced

Precision-balanced, quality-controlled National Travelers consistently deliver more pounds of first class yarn. And they do so at higher spindle speeds and with fewer ends down. And remember, their uniform weight, dimensions, temper and finish pay off in demonstrated production economies whether you're running cottons, wools, synthetics or blends.

An experienced National-Sterling engineer will be glad to help you select the right traveler for your particular requirements. Write, wire, or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I.; Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

American Textile Machinery Exhibition - International
ATMA
Parade of Progress
Atlantic City Auditorium
May 23 thru 27 1960
Atlantic City, N.J. U.S.A.

See us at Booth 89-90

NATIONAL Sterling
RING TRAVELERS

F. L. CHASE, JR., *Pres. & Treas.* L. E. TAYLOR, *Southern Mgr.*

FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES

There's a NATIONAL man nearby!

H. B. ASKEW
P. O. Box 424
Griffin, Ga.
Tel. GRiffin 7647

T. H. BALLARD
112 N. Ninth St.
Belmont, N. C.
Tel. TAimedge 5-2426

F. S. BEACHAM
P. O. Box 511
Honea Path, S. C.
Tel. EMerson 9-7302

C. L. FITTS
2205 St. Mark Rd.
Greensboro, N. C.
Tel. BRoadway 4-0450

J. T. GREENLAW
Glen Haven Circle
Saco, Maine
Tel. ATlantic 4-6298

Export Agent: A. M. ROMERO CORP., 350 Fifth Avenue, New York 1, N. Y.

CIRCLE 189 ON READER SERVICE CARD

to make modernizing dollars mean the most, lay smart, new floors of—

Northern Hard MAPLE

the finest floor that grows

Most modern touch you can give to a building! These bright, smooth, enduring floors of delicately-grained MFMA Northern Hard Maple bring any space up-to-date like magic. A grade for every budget—*all good grades!* Use MFMA Maple or Birch. They're *guaranteed.* Write—

MAPLE FLOORING MANUFACTURERS ASSOCIATION
553 Pure Oil Bldg., 35 E. Wacker Drive
Chicago 1, Illinois

CIRCLE 265 ON READER SERVICE CARD

NEWS ABOUT MEN

V. A. Ballard has been appointed manager of the Lancaster, S. C., plant of Springs Cotton Mills, succeeding Rama H. King, who has retired.

Leonard Barkan has been elected a director of Fulton Cotton Mills, Atlanta, Ga.

B. P. Barnet has been named manager of the Laminated Products Div., Fulton Cotton Mills, Atlanta, Ga.

Joseph W. Barnett has been promoted to senior vice president at Cannon Mills, Inc., New York, N. Y.

Oliver B. Beckwith has been named to the newly created post of director of quality control for all plants in the jute division of Ludlow Mfg. & Sales Co., Needham Heights, Mass.

PAUL M. FELKER, JR. (left) has been appointed quality-control director for The William Carter Co., Needham Heights, Mass. EMMETT BATTSON (right) has been named superintendent of the Thomaston Div. of Carter's. He had been superintendent of Griffin Garment Co., Griffin, Ga.

FINANCIAL SERVICE TO INDUSTRY

is the specialty of L. F. Dommerich. Since 1840, our comprehensive financial service has helped firms attain greater profits without financial headaches. Whether your business is in the $300,000 or the $30,000,000 class, a Dommerich plan, tailored to your needs and your goals, can help it thrive and grow.

Multiple Advantages

Dommerich gives you operating cash to increase your sales volume and also offers you bookkeeping savings, bad debt relief and credit checking. Extra funds for specialized purposes are available as well as the counsel of experienced marketing specialists.

Get The Facts

Your growing business needs these valuable Dommerich services. For complete information, at no cost or obligation, write, wire or phone us today.

L. F. DOMMERICH & COMPANY, INC.

Factors for Manufacturers & Merchants Since 1840

485 FIFTH AVENUE, NEW YORK 17, N. Y. • YUkon 6-5300

In California: L. F. DOMMERICH & CO. California Corp.
819 Santee St., Los Angeles 14, Calif. • MAdison 7-7171

Joe Dale has been named superintendent of Knit-Sox Knitting Mills, Hickory, N. C.

Freeman J. Daniels has been elected chairman of the board of directors of Erwin Mills, Inc., Durham, N. C. He succeeds the late F. E. Grier.

Franklin J. Dewey has joined Beaunit Mills, Inc., New York, N. Y., as assistant to I. Rogosin, president.

Richard E. Donner has been promoted to executive vice president of Dyersburg Cotton Products, Inc., Dyersburg, Tenn.

E. A. Freeman has been promoted to overseer of finishing from chief chemist at the Trion Div. of Riegel Corp., Trion, Ga.

George A. Frost has been named vice president in charge of marketing and will coordinate sales and advertising activities at Cannon Mills, Inc., New York, N. Y.

EDWARD C. HEMES has been elected vice president of Reeves Bros., Inc., New York, N. Y.

George E. Glenn has been named assistant manager of J. P. Stevens' newly acquired Exposition Plant, Atlanta, Ga.

John R. Goodnow has been elected corporation clerk of Troy Blanket Mills, Troy, N. H.

L. O. Harris, Jr., has been promoted to vice president in charge of sales for Fulton Cotton Mills, Atlanta, Ga.

Kenneth C. Horne has been named by James Lees & Sons Co. as general manager of the company's Rabun Mills Plant, Rabun Gap, Ga., and Pine Tree Mills, Dahlonega, Ga.

F. M. Howard has been promoted to general overseer of spinning at Judson Mills, Greenville, S. C.

Bennett Hudson has been named head of the industrial-engineering department of the Liberty Woodside Plant, Liberty, N. C. He succeeds Charles Land, who has accepted a position with Frank Ix & Sons, Inc.

Hugh G. Hurley has been named manager of the newly acquired Exposition Plant of J. P. Stevens & Co., Inc., Atlanta, Ga.

William D. Inabnit has been promoted to chief chemist for the Trion Div. of Riegel Textile Corp., Trion, Ga. He had been associated with Riegel Development Laboratories at Ware Shoals, S. C.

DR. J. W. WEAVER has joined the central laboratory staff of Cone Mills Corp.'s Research & Development Div. as assistant manager and section head of the chemical research and development section.

Robert D. Johnston has been named assistant general plant manager for the thread division's plants of Belding-Heminway Co. in Putnam and Grosvenor Dale, Conn.

William A. Lord has joined Hartford Fibres Co., New York, N. Y., as assistant plant manager at Rocky Hill, Conn.

Yates Mauney has resigned as vice president in charge of manufacturing for Hudson Hosiery Co., Shelby, N. C. Henry Singe will succeed Mr. Mauney.

Robert W. Philip has been named vice president and staff assistant to Fuller E. Callaway, Jr., chairman of the board of directors and chief executive officer of Callaway Mills Co., Inc., LaGrange, Ga.

Lewis Price has been named treasurer and director of purchases at Callaway Mills Co., Inc., LaGrange, Ga.

FLUIDICS* AT WORK

Selecting water treatment systems to meet your specific needs

Many factors are involved in proper selection of water treatment equipment for specific use. Analysis of the raw water, volume and quality of water required, cost of equipment (both initial and operating), amortization rates and plans for future expansion, to cite just a few. The systems illustrated typify answers to widely varying requirements.

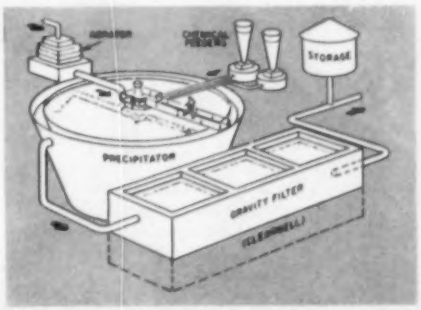
If you are concerned with any phase of water conditioning, bring an outline of your requirements to Permutit. As the largest and most experienced producer of water treatment equipment of every type, Permutit can assure you sound recommendations and the most efficient and economical system available for your particular need.

Write to the Permutit Division, Dept. TW-30, 50 West 44th Street, New York 36, New York . . . or Permutit Company of Canada Ltd., 207 Queen's Quay West, Toronto 1, Ontario; or 207 West Hastings Street, Vancouver 3, B. C.

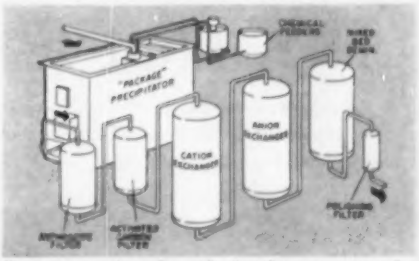
*FLUIDICS is the Pfaudler Permutit program that integrates knowledge, equipment and experience in solving problems involving fluids.

PFAUDLER PERMUTIT INC.

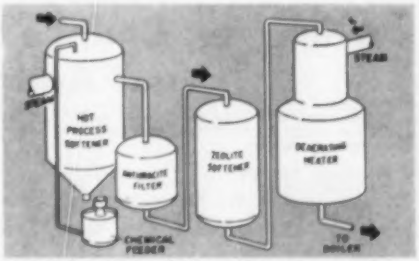
Specialists in FLUIDICS . . . the science of fluid processes



Well water for municipal supply. Aerator reduces CO_2 to reduce acidity, reduces taste and odor and oxidizes dissolved iron and manganese. Precipitator removes turbidity, color, hardness and oxidized iron and manganese. Gravity filters remove remaining traces of turbidity.



Process water for electronic components. Package Precipitator removes bulk of turbidity, hardness and iron. Anthracite filter removes remaining suspended matter. Activated carbon filter takes out color and absorbs dissolved organics. Demineralizer—cation, anion, and mixed bed—reduces dissolved solids to guaranteed maximum. Polishing filter removes traces of suspended matter.



Water for steam boiler. Hot process softener reduces hardness to a few grains per gallon. Also reduces silica. Anthracite filter removes remaining turbidity. Zeolite softener may be added to system where zero hardness is needed. Finally, the deaerating heater removes oxygen to prevent corrosion.

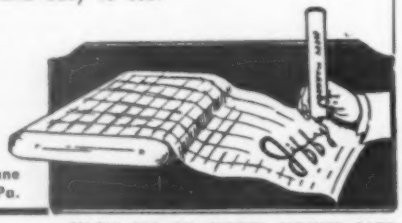
CIRCLE 259 ON READER SERVICE CARD

JIFFY TEXTILE MARKER

For use on rayon, cotton and woolen material. Dye resistant and boil-proof, permanent, inexpensive, quick and easy to use.

For information address

JIFFY TEXTILE MARKER CO.
406 W. School Lane
Philadelphia 44, Pa.



CIRCLE 260 ON READER SERVICE CARD

When You Change Your Address . .

It will help us to keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Circulation Manager
TEXTILE WORLD,
330 West 42nd St., New York 36, N. Y.

Please change the address of my Textile World subscription.

Name .....
Old Address .....
New Address .....
New Company Connection .....
New Title or Position .....

NEWS ABOUT MEN Continued

Walter Roark, Jr., has joined the engineering staff of Callaway Mills Co., Inc., LaGrange, Ga.

Francis J. Saidis has been appointed manager of the Horizon Div., C. H. Masland & Sons, Carlisle, Pa.

Claude H. Settlemyer, executive vice president of Cannon Mills, Inc., New York, N. Y., has also been named general manager of the company.

Edward R. Shannon has resigned as president, director, and sales manager of Modern Central Dyers & Finishers, Inc., Paterson, N. J. He is succeeded by Frank A. Thomas as president.

A. Newton Stall, Jr., has been promoted to products manager at Gayley Mills Corp., Marietta, S. C.

Roy G. Volkman has been named general superintendent of the Lactron-thread and Royalene-filament division of U. S. Rubber Co., Providence, R. I.

Werner von Bergen, associate director of research for J. P. Stevens & Co., has been chosen as the 1960 recipient of the Harold DeWitt Smith Memorial Medal given by Committee D-13 of the American Society for Testing Materials.

Edwin M. Walker has resigned as assistant to the president of Peerless Woolen Div., Burlington Industries, Inc., Rossville and Tifton, Ga.

Max Whatley has been promoted to plant manager of the cotton division of Judson Mills, Greenville, S. C.

J. A. White has been named general manager of manufacturing for the Synthetics Div., J. P. Stevens & Co., Inc., Greensboro, N. C., succeeding the late H. R. Turner.

Kurt J. Winter is opening an office as a textile consultant at 230 Park Ave., New York, N. Y. He had served in an executive capacity with the Cohama and Juilliard Divs. of United Merchants & Manufacturers, New York, N. Y.

Textile World

OBITUARY

E. J. Bishop, 65, retired sample overseer at the Dunean Plant of J. P. Stevens & Co., Greenville, S. C.

F. Bruce Christopher, 69, retired weave-room supervisor at Woodside Mills, Greenville, S. C.

L. L. Dickerson, 66, retired textile-manufacturing executive, Moultrie, Ga.

Herbert C. Ervin, 50, assistant secretary of J. P. Stevens & Co., New York, N. Y.

Elbert A. Hamilton, 69, retired sales executive of Raybestos-Manhattan, Inc., Birmingham, Ala.

N. B. Jamison, 86, retired spinning overseer at Judson Mills, Greenville, S. C.

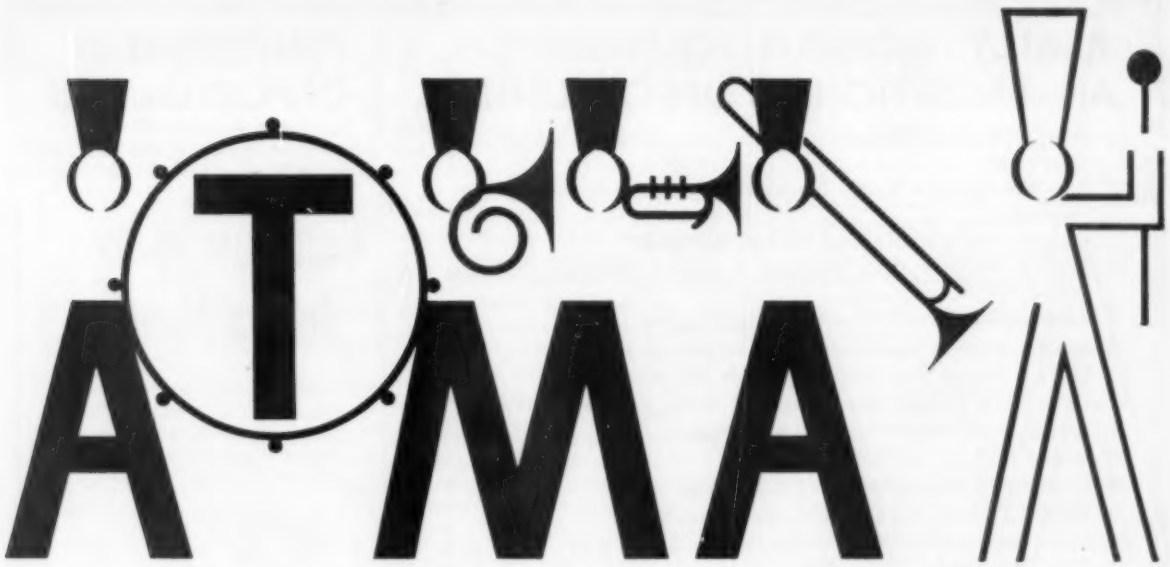
Joseph Carroll Magarahan, 71, retired treasurer of Cone Mills Corp., Greenville, S. C.

Thomas B. McCusker, Sr., 71, president and treasurer of Holliston Mills, Inc., Norwood and Kingsport, Tenn.; and president of Brookfield Mills, East Brookfield, Mass., and East Braintree Finishing Co., Braintree, Mass.

Daniel Walter McLemore, Sr., 84, retired superintendent of mills in Dillon and Chester, S. C.

Edward G. Sayce, purchaser of yarns and threads for The William Carter Co., Needham Heights, Mass.

J. Arthur Towle, former president of Hillsboro Woolen Mills, Hillsboro, Conn.



Parade of Progress

American Textile Machinery Exhibition – International

Preview in TEXTILE WORLD – MAY ISSUE

May 23-27, 1960 is *the big* week in Convention Hall, Atlantic City, New Jersey—it's the week of the largest, most comprehensive specialized textile trade fair ever held in the United States.

New fibers, new yarns, new finishes and new consumer demands have created many technological and scientific problems that *must* be solved. New developments in equipment and manufacturing techniques to help provide the answers to many of these problems will be shown at the ATMA show. TEXTILE WORLD allows you to preview the show through the pages of the May issue.

The May issue will provide you with a list of exhibitors, their locations at the show, and a "quick look" at much of the equipment to be shown by means of the "Guide to Exhibitors" —a special section which will include *the ads of exhibitors.* This issue is *must* reading for all textile men interested in keeping up with fast moving technologies of efficient mill operation—*particularly those who will be unable to attend the show.*

Advertising forms close April 5th, 1960.

Visit us at the Show—Booths 406-407

Textile World

A McGRAW-HILL PUBLICATION, ABC ABP

330 West 42nd St., New York 36, N. Y.

REALLY MODERN EQUIPMENT - - AN EXCEPTIONAL OPPORTUNITY

1—Parks & Woolson Hi-Speed Davidson Shear, 3 blades, 66½" wide. Age—1947
1—Bachman-Uxbridge Gentle Air Slasher, Model A, Serial #59, 85" headway
1—Rodney Hunt Stainless Steel Washer, 84" wide
1—Parks & Woolson Cloth Doubling & Folding Machine, 72" wide. Age—1948
1—Butterworth Clip Tenter Frame 30' long, 84" wide
1—Gessner Rotary Press 66½" wide
1—Curtis & Marble Flat Folder, spring lift, 60" wide
22—Crompton & Knowles W3 Convertible Looms, 72". Age—1947
20—Draper Model X 60" Looms. Age—1940
20—Draper Model D 66" Looms, cam type
33—Crompton & Knowles Model C-2 Automatic Looms
8—Aldrich 2 Beater Pickers, 40" wide. Age—1953-7
20—Saco-Lowell Model R-2 Spinning Frames, 240 spindles, 3½" ga., Roth Long Draft. Age—1946.

Republic
TEXTILE EQUIPMENT COMPANY
40 Worth Street, New York 13, N. Y. • COrtlandt 7-1391
• APPRAISALS • PURCHASE AND SALE TEXTILE MACHINERY • LIQUIDATION OF MILL PROPERTIES •

CIRCLE 400 ON READER SERVICE CARD

BIALEK'S BEST BUYS

2—Abbott Quillers, 120 sp., 1951, Pinboard Attachment
1—Abbott Quiller, 100 sp., 1953
All with auto-bobbin hoists, converters
Whitin Auto. Quillers
Hayes Metal Section Beams
Sipp Vertical Cake Creels
2—Cocker Tricot Warpers with Reiner 600-end Creels
Hermas 62" Shearer
24—C&K, 60", "Big Six", 5-6, 2x1 Dobby
Sipp 84" Hi-speed Warper
New Tricot Opener, tacker

THEODORE BIALEK & CO.

6704 Empire State Bldg.
NEW YORK 1, N. Y.
Longacre 3-4978-9

230 Belmont Ave.
HALEDON, N. J.
Lambert 3-5886-7

CIRCLE 401 ON READER SERVICE CARD

IMPROVE QUALITY WITH MODERN MACHINERY

2—Saco Lowell Vertical Openers
2—Kitson 2 & 3 beater B.P. pickers, blending
30—Whitin 40" Flat Top Cards, 12" coilers
40—Whitin 40" Flat Top Cards, 12" coilers
10—Whitin Model J, 12 head, combers, 1951
4—Whitin Silver Lappers, 9¾" Lap, 1949, MD
12—Deliveries Bi-coil draw., 10" coilers, 1949
30—Veeder Root 3-shift hank clocks, 2¾" roll
1—Sipp 72" mag. warper, 4 speed drive
1—Ramsey 4 beam ribbon warper, M.D.
2—Sipp 600 end magazine cone creels
1—Gessner 72" napper, 20 roll, single acting
7—60 & 80 gal. ss. jacketed tanks
1—Eastern ¾ HP part. mixer, 5' ss. shaft
18—Rubber covered rolls, up to 117" face
1—42 overhead Scutcher, 3 bar tension, swing folder
3—Terrell roving bobbin strippers, M.D.
1—Suncoo Cot Buffing machine
2—#44 Rote-Coners, steel drums, waxing
2—Abbott 12-sp. Radial Quillers, pinboarding

MACHINERY SALES CORP.

80—Barber-Colman beams, 66½ x 30 x 12
90—Barber-Colman beams, 54½ x 30 x 12
5—B-C part. Warp typing mach., LC, LS, LL, K
6—C&K W-2 looms, 82", 4x1, M.D.
16—C&K W-3 looms, 80", 4x1 box, M.D.
16—C&K W-2 looms, 82", 4x1 box, M.D.
1—Cloth inspec. mach., with Kaumagraph attach.
1—G/L Slasher, 7' x 5' cyl., controls M.D.
1—Elliott & Hall 47½" Jaw Cloth Folders, air-lift
7—Halton 600 Jacquards, single cyl. dbl. lift
4—48" ss Dye Jigs, Tandem operated
1—Tennant Model J floor machine
2—Troemner Analytical balances
700—AMCO #5 Humidifier heads
300—Complete Brown Spring Tops
200—Veeder-Root 3-shift reset pick counters
10—Diehl transmitters, 1 HP, 1800, 580/3/60
200—Diehl 1 HP loom motors, 1260, 220/3/60
1—Poland 26" Extractor, copper basket, M.D.
1—C&M 48" Railway Rolling & Sewing machine.

131 Court Street, P. O. Box 367
New Bedford, Mass. WYman 9-6273

CIRCLE 402 ON READER SERVICE CARD

EMPLOYMENT OPPORTUNITIES

(Continued on pages 196 & 197)

Can You Spare Just a Moment?

Let us tell you about this unusual Life-Career opportunity with one of the country's highly respected suppliers of fabrics for industrial use.

Our products are supplied principally to the Paper Industry—well known for both stability and growth. (It seems people *always* need paper, and more and more uses are being found for it every day!)

These Fabrics are highly engineered and require very special skills and manufacturing techniques.

If you are an expert in FULLING METHODS or LOOM ENGINEERING

And if you are a graduate engineer or have equivalent experience, we are sure that you will be intrigued by the work being done in your field at our excellently staffed and equipped research facilities near Albany, New York.

Please write us about your experience and if it fills our need, you will be invited to visit our headquarters at our expense and at a time which is most convenient for you.

All inquiries will be handled with the utmost confidence and will be acknowledged.

Please address your correspondence to the attention of the Vice-President for Research:

HUYCK FELT COMPANY
Division of the Huyck Corporation
RENSSELAER, NEW YORK

CHARLES P. RAYMOND SERVICE, Inc.
Over 55 years in business, serving employers seeking new executives and executives seeking positions. We invite your inquiries.
294 Washington St., Boston, Mass.
Phone LI 2-6547

10—DRAPER X-2 LOOMS—50" WIDE—1957

THROWING

7—Atwood #100 1 lb. Headless Pkg. —1951
4—U. S. Redraws—60 Spin.—Spindleless—1950
1—Saaba—28 Spin.—#511—1957
100—Model 50 Coners—All Types
2—U. S. Vertical Redraws—1953-1955
5—Fletcher—100 Spin. Ea.—Doublers —1952-53—6" Ga.—4" Ring
2—U. S. 110 Spin. Doubler—20/20 Spin.—1949
6—Fletcher—208 Spin. 1 lb. Marq. B.B. Spindles

WEAVING

19—W3 AC Looms—C & K—94"—1953
10—C-4 72" Looms 4x1—Multipliers
1—Cocker 54¼" Direct Warper
2—S.E. 93" Warpers—D.Y. Mag.

MISCELLANEOUS

2—Obermeir Top Kettles S.S.
1—Whitin RD 5-52 Spin.—8" Ga.
1—Knowles Continuous Skein Dryer
3—Granite Tubers — 15-20 lb. — 20 spindle 1946 models—Motor
1—Nash Model 88 Bobbin Polisher
4—Saco-Lowell Gill Boxes
1—Johnson 66" 7 Can Slasher—S.S.
1—30" Tolhurst Extractor—Tot. S.S.
1—S.S. Dye Jig—Tot. Enc.
2—Cocker Creels—1953—1080 & 760 Enc.
3000—14 & 42" Roving Cans—Seamless
24—Fletcher tape looms
40—Heads Whitin-Schweiter Quillers
12000—⅝" S.S. Dyetex Tubes

24—Fletcher Tape Looms

DYE HOUSE & FINISHING

1—3' R&L T.E. Beck—S.S.-60" D-7' F-B
1—3' R.H.—T.E. Beck—S.S.-50" D-7' F-B
1—12' S.S. Hooded Beck—42" D—10'F-B
1—Rodney Hunt Tru-Shade—10'-9½' F-B—S.S.—T.E.
1—K.W.G. Skein Dyer—S.S.—500 Lb.
2—Rotary Venango S.S. 15 & 50 Lb.—4 pocket ea.
1—S.D. Rotary—100 Lb.—S.S.—R.D.-12 —4 pocket
1—Smith Drum Rotary—50 Lb.—Monel —RD-12
2—S.D. Paddle Mach.—Monel 50 & 100 lb.—Self-Doffing
5—48" 2-Roll Pads—S.S.
1—Granger 6-Roll Calender—41"
1—V.V. 60" Semi Decatur
2—V.V.—20 ton hyd. Calender 66" face
1—Parks & Woolson Shear—4 blade
1—Hermas Salvage Trimmer—1954
1—Wet & Dry Shrinking mach.—1956—for 80" cloth

Wm. Rabinowitz & Sons

TEXTILE MACHINERY, BOBBINS & SUPPLIES

Gordon & Jordan Streets — HEmlock 4-9525 Allentown, Pa. Cable RAB.

ONLY PARTIAL LISTING . . . SUBJECT PRIOR SALES . . . SELECTED STOCK OFFERINGS

CIRCLE 403 ON READER SERVICE CARD

COMPRESSORS-VACUUM PUMPS

FOR THE FINEST IN REBUILTS

1902 **AMERICAN** 1960

100 CFM 125 psi 6x7 Ing. Rand ESI
138 CFM 100 psi 7x7 Ing.-CPT-Worth
184 CFM 125 psi 8x9 Ing. ESI
234 CFM 125 psi 9x9 Ing. ESI-Worth HB
283 CFM 35 psi 10x7 Ingersol ESI
321 CFM 125 psi 10x11 Chicago T-B
419 CFM 40 psi Ing. ES
465 CFM 100 psi 12x11 ES-1-CPT
528 CFM 100 psi 14x12 Ingsr.-Gardner
686 CFM 100 psi 14x13 Ing.-CPT
730 CFM 50 psi 15x11 Worth HB
823 CFM Vac. 18x7 Ing. ES
940 CFM 50 psi 17x11 Ing. ES-1
1016 CFM 55 psi 17x13 Ing. ES
1100 CFM Vac. 17x7 Joy WGV9

LIKE NEW	2506 CFM 50 psi 19—19x14 Penn. DE1 300 HP E.M. Syn 3-60-2300	*USED 6 MONTHS*

1270 CFM 40 psi 19x13 Ing. ES-1
1410 CFM 35 psi 20x13 Worth HB-Ing. ES
2135 CFM Vac 31x13 Ing. ES

2078 CFM 110 psi
30—18x31 Ing. FRE 2 500 HP 3-60-2300/4000
1945—Excellent

American Air Compressor Corp.
Dell & Tax Streets — North Bergen, N. J.

CIRCLE 404 ON READER SERVICE CARD

FOR SALE!

1–W. & J. 60' x 50" Mercerizer

2–W. & J. 90' x 50" Clip Tenters

7–Print Machines, 40"–54" Wide

JAMES E. FITZGERALD
10 Purchase St. Fall River, Mass.
Tel. OS 8-5414

CIRCLE 405 ON READER SERVICE CARD

WM. RABINOWITZ & SONS

ANNOUNCES THE REMOVAL

OF THEIR OFFICES AND WAREHOUSES

TO

GORDON AND JORDAN STREETS

ALLENTOWN, PENNSYLVANIA

EFFECTIVE MARCH 1, 1960

OUR NEW TELEPHONE
HEmlock 4-9525,-6,-7,-8,-9,-30

OUR CABLE ADDRESS
R A B

CIRCLE 406 ON READER SERVICE CARD

LIQUIDATING

MODERN DYEING • FINISHING • PRINTING MACHINERY

Partial List

1—Junior Size Stainless Steel Continuous Bleach Range.
1—58" 3 Roll 100 Ton Perkins Hydraulic Calender, M. D.
24—50", 60", 70" Dye Jiggs, enclosed and open, stainless steel.
1—Palmer Quetch Unit, 65" wide.
1—60" 3 Roll Finishing Calender, anti-friction bearings.
3—50" High Speed Tubers.
1—75" Hinnekens Boil-off Machine.
1—65" 2 Roll Padder, pneumatic, 5 ton, spare roll.
6—Tenter Frames, 30'-90' lengths x 50"-62" widths.
6—Scutchers, 48"-78" widths.
1—48" Haveg Agor, 26' long, ball bearing.
4—Sample Dye Becks, 42"-60" Depths, stainless steel.
2—12' Enclosed Stainless Steel Dye Becks, 45" deep.
2—50"-72" Semi Decators, blankets, pumps and motors.
20—65" x 23" Copper Dry Cans, siphon type.
1—168" 2 Roll Mangle, ball bearing, air set.

We welcome your inquiries.

SOUTHERN OFFICE
IPA SOUTHERN, INC.
610 S. Carolina Nat. Bk. Bldg.
Greenville, South Carolina
Tel: Cedar 2-3561

IPA

NORTHERN OFFICE
INDUSTRIAL PRODUCTS OF AMERICA
140 Market St., Paterson, N. J.
Tel. Sherwood 2-6614 Cable: Texindus

CIRCLE 407 ON READER SERVICE CARD

TEXTILE AUXILIARIES INC.

"Specializing in Bleaching, Printing, Dyeing and Finishing Machinery"

2—50' x 50" Winsor & Jernauld Tenter Frames with P. & S. Insulated Housing, S.S. Top Opening Chain.
2—50" Morrison S.B. Stainless Steel Dye Jiggs with tilting expanders.
1—12" S.S. Dye Beck—Shallow.
1—60' x 66" Straight-Away Pin Tenter with 55' Andrews & Goodrich Housing, 3 Canopies for high temperature.
1—Van Vlaanderen S.B. 50" Padder, 18" diameter rolls.
1—6 Color R.B. & F. 44" Printing Machine, complete with Backrigging, Dry Cans, D.C. Motor, etc.
1 & 2 Roll 54" Winders & Batchers.
Scutchers—all widths.

We carry spare Padder & Calender Rolls all sizes, also motors from 1 HP to 100 HP.
These are only a few items: For Detailed List: Write, Wire or Phone:

Dexter 1-9650 Dexter 1-8837 — 146 West River Street

PROVIDENCE, R. I.

CIRCLE 408 ON READER SERVICE CARD

GOING OUT OF BUSINESS

FOR SALE—COMPLETE EQUIPMENT and MACHINERY OF NARROW TEXTILE MILL in METROPOLITAN NEW YORK AREA

All Equipment Either Operating or in Operating Condition

- SCHAUM & UHLINGER RIBBON LOOMS WITH ALL AUXILIARY EQUIPMENT
- DOUBLE DECK BATTENS
- UNIVERSAL QUILLERS
- FINISHING EQUIPMENT
- SEWING MACHINES
- DYE HOUSE EQUIPMENT INCLUDING EXTRACTOR

ABOVE REPRESENTS ONLY PARTIAL INVENTORY LISTING.

For Inspection, Complete Inventory, Delivery, Terms of Sale, Please Write:
FS-3710, Textile World, Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

CIRCLE 409 ON READER SERVICE CARD

All Types of Used Machines for Knit Underwear Mills

SCOTT & WILLIAMS and WILDMAN RIBBERS 8 to 16 cut, Sizes to 24"
TOMPKINS SPRING NEEDLE TABLES, All sizes and gauges
WILDMAN SPRING NEEDLE FBSS
WILLCOX & GIBBS FLATLOCKS, MERROWS, SINGER & METROPOLITAN SEWING MACHINES
Also Various types of SPECIAL MACHINES, CUTTING—CALENDERING—PRESSES, Etc.
Send us your Inquiries.

MOHAWK VALLEY KTG. MACH. CO.
Dwyer Ave. at Pixley St. Utica 2, N. Y. Phone 4-8109

CIRCLE 410 ON READER SERVICE CARD

EMPLOYMENT OPPORTUNITIES

(Continued from page 194)

Loom Engineering Experts

What do you want most for your family—

Better Schools?
Better Living—Country and City?
Better Facilities for Recreation?

Get these PLUS the opportunity to advance professionally and for personal recognition with HUYCK.

Look for our ad page 194 in this issue entitled
"CAN YOU SPARE JUST A MOMENT?"

SALES REPRESENTATIVE

Leading manufacturer of fibre lubricants, softeners, detergents, and a complete line of textile specialties seeks Southern sales representative with minimum three years mill or lab experience.

RW-3583, Textile World
Class. Adv. Div., P. O. Box 12, N. Y. 36, N. Y.

ADDRESS BOX NO. REPLIES TO: Box No. Classified Adv. Div. of this publication. Send to office nearest you.
NEW YORK 36: P. O. Box 12
CHICAGO 11: 520 N. Michigan Ave.
SAN FRANCISCO 4: 68 Post St.

POSITION VACANT

Second shift dyer foreman experienced on synthetic fabrics. Narrow fabrics experience preferred but not necessary. Philadelphia area. P-3733, Textile World.

SELLING OPPORTUNITY AVAILABLE

Sales Agent wanted in New England territory by Southern manufacturer of Textile Hardwood Accessories and Supplies. Prefer agent with experience in weave room operations. Write giving full information as to qualifications. P. O. Box 1021, Greenville, S. C.

POSITIONS WANTED

Woven Labels. Desire responsible position in woven label concern. Over 30 years in labels, trimmings, as foreman and maintenance. Presently employed. PW-3477, Textile World.

Foreign Assignment Wanted: Qualified Finisher & Bleacher with over seas experience. 39 yrs. old, in excellent health. Capable of setting up departments and training personnel. PW-3415, Textile World.

Retired knit goods finisher available for temporary work. Thoroughly experienced in all phases of cotton back fabrics. PW-3229, Textile World.

Ambitious textile engineer with excellent educational background and 5 yrs. experience in all technical aspects cotton and synthetic manufacturing desires change for professional and financial development. PW-3635, Textile World.

Chemicals—Dyes—Pigments—Plastics. Technical supervisor of sales. Organization—opening new markets—Have also built and managed textile mills—World travelling experience 12 years in 20 countries. First class references—speak fluently English—French—Spanish—44 years old—seek a responsible position in suitable country. PW-3725, Textile World.

17 years experience, dyeing with all types dye, synthetics, natural fibers, blends, woven, knitted goods. Production, quality control, cost conscious. Excellent color eye, strong supervisory background. Seek position as superintendent, or head dyer. Will relocate. Write PW-3722, Textile World.

(Additional Employment Opportunities on opposite page)

WANTED

C&K W-3

Woolen-Worsted

LOOMS

90" reed space.

Motor not required.

Must be in good condition.

James W. Cox, *Textile Engineer*

111 West 40th St. New York 18, N. Y.

CIRCLE 411 ON READER SERVICE CARD

WANTED

Stainless Steel sample piece Dye Beck approximately 2'.

Also all sizes from 6' up, totally enclosed. *State best price.*

W-3762, Textile World

Class Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

CIRCLE 412 ON READER SERVICE CARD

WANTED

Good used C&K Looms

80—C4 72"—94" 60—C6 54"

30—C5 54" 80—W3 76"—94"

Prefer 1950 or younger. Offer all or part

W-3717, Textile World

Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

CIRCLE 413 ON READER SERVICE CARD

EMPLOYMENT OPPORTUNITIES

(Continued from opposite page)

FULLING EXPERTS

What do you want most for your family—

Better Schools?

Better Living—Country and City?

Better Facilities for Recreation?

Get these PLUS the opportunity to advance professionally and for personal recognition with HUYCK.

Look for our ad page 194 in this issue entitled

"CAN YOU SPARE JUST A MOMENT?"

WANTED

DYESTUFF SALESMEN

experienced, with some following for long established firm. Full support assured. Drawing account against liberal commissions. Strictly confidential.

SW-3716, Textile World

Class. Adv. Div., P.O. Box 12, New York 36, N. Y.

WANTED

KNITTING TECHNICIAN

One capable of designing or inventing and producing new knitted fabrics on circular knitting machines of all types and V-bed machines.

Man is needed to head up experimental knitting department with large, well established, successful knitting mill in Midwest, producing hosiery, underwear, girdles and other knitted garments.

Employer will pay expenses for an interview, moving and transportation if employed and our service fee. If available send complete resume to—

CHARLES P. RAYMOND SERVICE, Inc.

294 Washington St. Boston 8, Mass.

Tel: Liberty 2-6547

WE OFFER FOR SALE . . .

2—WHITIN MODEL E SPINNING FRAMES—5" R—6½" G.

2—Portable Lift Trucks

12—C&K 60" looms, model C2, multipliers, leno motions, 25 harness, 4 x 1, motors, etc.

20—D & B 40" Cotton Cards

2—S.S. tanks 100 & 150 gal.

1—Foster #102 winder, 100 spindles, 50 for paper cones and 50 for tubes.

32—C&K 56" S.3 looms, M.D., W/Dobby

1—P & W 3-blade Shear Complete

1—Barber Colman 56" LL Knotter

1—Knowles, 1953, Drum Type H.S. Dresser W/Creel, 98"

1—Roy Napper Grinder 100"

1—P & W 72" x 36" Semi Decater, 1947

1—Sargent Bagging Machine

12—Waste End Blowers—110v.

2—Collins Fancy Twisters, 200 spdls.

15—Spindles Whitin Schweiter Winder

2—Scutchers 72" and 78" complete

Nash Pumps sizes, 1-2-3-4-5-6

4—Whitin "B" Fancy Twisters, 4" gauge, 200 spindles, M.D.

2—Tolhurst 60" S.S. Extractors.

1—Gessner Vacuum Extractor, Folder, 76", Adjustable, M.D.

1—Terrell Bobbin stripper, M.D.

1—HERMAS 4 Blade Vertical Shear complete with Flock System, motors, blower, rolling device, 1948

1—D & F Fearnaught Picker with feed

2—Cloth Numbering Machines

1—Peralta 48"

1—H & W yarn conditioning oven

2—Hunter Fulling Mills 28E

2—Holdsworth 1953 Pin Drafters

1—Toledo Cloth weighing scale

1—Gessner 16" Press

2—G.E. Motors, A.C.A. 5-15 H.P.

Large quantity new & used parts for S-3 looms

STOCK AND SKEIN DYE MACHINERY

10—Klauder Welden S.S. skein dye, 12 stick—15 stick—and 56 stick units, M.D.

1—Smith Drum 100 arm S.S. skein dye

1—Franklin 95 LB. S.S. package dye

1—Franklin S.S. sample dye

2—Sample Dryers

8—Hussong 500 LB. S.S. stock dye

1—American Laundry Washer

1—Hurricane Dryer and Can dryers

Stainless steel tanks all sizes

ATCO

Write, Wire or Phone Today—CABLE ADTEX

ADVANCED TEXTILE COMPANY

P. O. Box 661 • STuart 1-3633 • Providence, R. I.

CIRCLE 414 ON READER SERVICE CARD

FOR SALE

SELECT WAREHOUSE STOCK

1—BALER, Economy, #454 Model, Downstroke, 54" x 27" x 72".

1—BALER, Galland-Henning, open type, 56" x 36" x 5'.

7—BLOWERS, Allen, Rawstock, Model 20"-40"-60", Ball Bearing.

1—CEILING CONDENSER, P&S., Single Cylinder, type 442, 18" x 36".

1—TAPE CONDENSER, D&F., 60", 4 Bank, Single Rubb, 144 Good Ends.

1—CONVEYOR, Sargent, Portable Type, 20' long, 30" wide belt, 1952.

2—CLOTH DOUBLERS, P&W., 66", with Measuring Drums and Motor Drives.

1—CAN DRYER, Tex. Fin., 18 Cans: 16-Monel, 2—S.S., 49½" x 23" dia.

1—CENT. EXTRACTOR, American Laundry, 1940, 50", 300 lb. capacity.

1—CENT. EXTRACTOR, Fletcher, 26" copper tinned basket, V-Belt Drive.

2—CLOTH FOLDING Machines, C&M., 43", 64", ⅓ yd. folds, 5" jaws, M.D.

1—CLOTH FOLDER, E&H., 52", 1 yd. folds, Airlift, Motor Drive.

1—NAPPER GRINDER, D&F., 110", Surface and Side Grinding Wheels.

1—PIECE DYE KETTLE, R. Hunt (Trushade), 7', S.S., Open Type, 8 String.

1—BROADBAND LAPPER, P&S., Mod. 682, 62" wide Floor Apron, 10' long.

2—MEASURING & ROLLING Machs., P&W., 60", 80", AWC Models.

2—MEASURING & INSPECTING Machs., Measuregraph, 64", 71" Knurled Rolls.

3—DOUBLE ACTING NAPPERS, D&F., 72", 80", 24 Roll, Folders, M.D.

2—DOUBLE ACTING NAPPERS, Woonsocket, 80", 36 Roll, B.B. Workers, Folder.

1—SINGLE ACTING NAPPER, Woonsocket, 90", 22 Roll, Swing Folder, M.D.

1—CONDITIONING OVEN, Emerson, Lab. Electric w/Sample Baskets, Balance.

1—PICKER, Dewsberry, 24", 12 Bar, B.B. Cyl., Feed Table, Feed Rolls.

3—MIXING PICKERS, D&F., 6 Bar, 42", 48", 60", Feed Table, Feed Rolls.

1—SKEIN REEL, Fidelity, Single Arm, Ball Bearing, Holds 7 Skeins.

1—ROTARY SLITTER, P&S., 1953, 3-8" dia. Cutters. Cutting Roll 84" long.

1—SHEAR, P&W (Centurial), 60", 3 Section Combination Tiger and Shear.

1—SHEAR, P&W (Centurial), 84", 3 Blade, List Savers, V-Belt Drive.

1—SHEAR, C&M., 60", 2 Blade, File Cut Revolvers, Velvet Type.

2—TWISTERS, Collins, 200 Sp., 1945, 3¼" Ring, 7½" Trav., M.D.

1—TENTERETTE, Gessner, 11' long, 72" Max. Width, Beamer, V-S Drive.

McDOWELL ASSOCIATES, INC.

General Offices 51-E 42 Street
New York City 17, N. Y.
Phone: Murray Hill 2-7417

Warehouse No. 1 N. Front
Dock & Water Sts., Hudson, N. Y.
Phone: Hudson 8-2211

CIRCLE 415 ON READER SERVICE CARD

Spinning Frames—Completely Modernized

Available Now From Stock

65,000 spindles, 3" gauge, Whitin Model F and B
20,000 spindles, 3" gauge, Saco-Lowell (latest head)
15,000 spindles, 3¼" gauge, Whitin Model B
7,000 spindles, 3½" gauge, Whitin Model F and B
5,200 spindles, 3½" gauge, Saco-Lowell (latest head)
6,000 spindles, 3½" gauge, Fales & Jenks (latest head)
3,600 spindles, 4" gauge, Whitin Model B

Completely Modernized with:

Open Type Umbrella Creels
Latch Bobbin Holders
Suction End Collection
Double Apron High Draft System
Individual Drive Pulleys with Ball Bearings
Ball Bearing Tape Tension Pulleys
Ball Bearing Top Drive Spindles
High Speed Rings

Suitable for: Warp or Filling Yarns, Cotton or Synthetic Staple

Attractive Prices on all or any portion of these lots
Delivery and Erection Supervision Can Be Included

ROBERTS COMPANY, Sanford, N. C.

manufacturers of textile machinery

Contact Trade-In Dept.: M. C. Golden, SPring 4-8811

Export Dealer Inquiries also Invited

CIRCLE 416 ON READER SERVICE CARD

LIQUIDATION SALE

8—8' to 15' S.S. Dye Becks.
1—50" V.V. 3 roll Calender B.B.
2—74" & 64" Progressive Tubing, Inspection & Measuring Machines with reverse.
10—96" S.S. Dry Cans.
8—72" New S.S. Dry Cans.
8—45" S.S. Dry Cans.
1—60" & 1—50" Morrison Tenter Frames.
1—72" & 1—64" Singeing Machines.
1—V.V. 80" Tensionless Tuber—1956—heavy duty.
1—Verduin 53" Padder—5 ton—2 roll.
1—Hinnekens Boil-Off Machine 52". S.S. Conveyor Rods-S.S. Cylinders.
1—Smith-Drum 3 arm Cascade Skein Dyeing Machine—1956.
1—72" CRA Tubing, Doubling & Measuring Machine with reverse.
4—60" Hinnekens Dye Jiggs—stainless.
2—60" Morrison Dye Jiggs—stainless.
2—60" Werner Dye Jiggs—stainless.
1—V.V. 72" Decatur 1956—blanket like new.
2—54" Embossing Machines.
2—72" Scutchers, vari-speed Drives.
2—96" Rubber Rolls 18" & 12" Dia.—$500 for the Set.
1—72" Woonsocket Napper 24 roll dble acting.
1—#5 B.B. Enclosed Reeves Drive—$500.00.
3—P.I.V. Drives HM2 with 3 H.P. Motors.
1—Link Belt P.I.V. Drive Unit, VMS, 4 to 1, direct driven 10 H.P. Motor.
1—#4 Nash Pump 30 H.P. Motor—$350.00.
2—LS Nash Pumps—$350 each.
2—L4 Nash Pumps & Motors—$300 each.
3—L4 Nash Pumps—$200 each.
Reeves Drives from 0000 to #5.

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.

SHerwood 2-1367-8

CIRCLE 417 ON READER SERVICE CARD

3 BANLON MACHINES

SMITH DRUM SKEIN DYERS S.S.—1-20 ARM—1-10 ARM 1-12 ARM 7 ARM

7—Fluflon Machines
7—C&K S-6 Looms
4—W-2 84" Looms
Superloft Machines
1—Whitin D 5½" Ring Twister
1—600 End Creel
2—Tirrel "K" Strippers
8—U. S. Facedrive Uptwisters
1—Atwood Redraw #200
1—NASH 88 Sander
1—Foster #102 Winder
3—Autoclave—Small
20M—10B Spools—8" T
1—H & W Steam Box
2—Extractors 42" & 30"
3—Arnold Yarn Covering Machines
50—Univ. #50 Winders
4—Slitting Machines
2—English Thread Spoolers

BOBBINS—SPOOLS—QUILLS—*All Sizes & Types*

PENNSYLVANIA SPOOL & EQUIPMENT CO.

425 LEHIGH ST. ALLENTOWN PA. Phone 3-7345

Complete mill for making linen thread. Complete mill for a slitting & reinforcing metallic yarns.

CIRCLE 418 ON READER SERVICE CARD

FOR SALE

Good Machinery—Low Prices

30—Drying Cans 80" x 20" dia.
2—Sipp E. Hy Speed Warpers 63".
2—Sipp E. Mag Cone Creels.
2—Air Perme-ater Humidifier Units.
1—VV 3 Roll Calender 60"
72—Spdle Whitin Schweiter Auto Quillers.
1—RD&F 44" 5 color print machine.
1—Hinnekins Moire Calender 50" New.
1—Hercules Extractor 50" Copper Basket.
2—88 Tru Shade 6' Dye Tubs, with 88 Hoods
1—Johnson Sizer, 5 Copper Cans 60" Wide.
1—Ingersol Rand 75 HP Air Compressor.

STAVE & KESSLER
106 Kearney Street
P. O. Box 1611 Paterson 16, N. J.

CIRCLE 419 ON READER SERVICE CARD

1 VV—60" 2 burner singeing mach.
1 V.V. 66" low type palmer
2 72" Scutchers
1 SS 3 arm skein dyeing mach.
SS dye becks 8'-15'
1 VV-80" tensionless tuber
2 Morrison 70" Dye Jiggs
1 VV-65" SS Calender
1 set 7 60" S.S. cans
1 New Hinnekens 60' x 66" Tenter frame
1 Hinnekens 52" Bolloff machine

MAR-DAY TEXTILES

52-60 BERKSHIRE AVE. PATERSON 2, N. J.
MU-4-5132

CIRCLE 420 ON READER SERVICE CARD

FOR IMMEDIATE SALE

Barber Colman 56 inch Model LL
H.&W. (ST-3) 86"H x 44"W x 96"
Deep Johnson Slasher 7 Can—30"
SS C-4 Sample Looms 24" Dobbys
Amco & Walton Humidification

"Harness Frames, Heddles, Drop Wires, Loom Motors, Pinions, Pick Counters"

PAWTUCKET MILL SUPPLY CO., INC.
240 York Ave., Pawtucket, R. I.

CIRCLE 421 ON READER SERVICE CARD

$3,000,000 Liquidation:
Chemical Plant at Orange, Texas

Type 316 stainless steel tanks, kettles, heat exchangers, columns, stills, crystallizers, centrifugals, pumps, valves, etc.

WONDERFUL VALUES, SEND FOR LIST

PERRY EQUIPMENT CORP.
1430 N. 6th St. Phila. 22, Pa.

CIRCLE 422 ON READER SERVICE CARD

SOUTHERN TEXTILE WORKS
P. O. BOX 674 ANDERSON, S. C.

CIRCLE 423 ON READER SERVICE CARD

FOR SALE

Late Model Haskell Dawes Wet Twister
14 Spindle, Size 6½" x 8"
5 H.P. Motor
Twin Disc Hydro Shive Drive
168 Spindle Creel,
Stainless Steel Pans and Stand

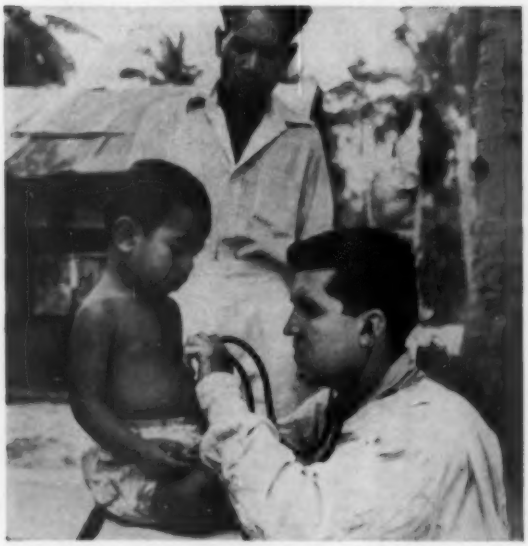
DRAWER C
Watertown, Connecticut

CIRCLE 424 ON READER SERVICE CARD

This great seaborne health center will carry a new kind of aid abroad—*with your help.* Part of the people-to-people project Hope, it will enlist 200 specialists in sharing our health skills.

Ambassador with a blackboard, the Hope specialist will help the often woefully few local medical technicians train helpers. The result: many more hands. And that means one Hope dollar is multiplied many times over.

YOUR HELP CAN COME BACK A HUNDRED TIMES OVER



One local doctor for 100,000 people. These are the odds Hope may face. Yet Hope can mean so much. The health of this child. The health of five Indonesians. *Trained* hands and only a dollar's worth of penicillin can cure them of crippling yaws.

If enough of us help, the S.S. Hope will be outbound in 1960. First port of call: Indonesia. A bold health project called Hope will be underway.

The need is crucial. Many places, too many health hazards exist. Too many people robbed of the will to live. Too few hands to help. Often, a doctor for 100,000.

Hope's approach is *practical.* Help where a nation's doctors ask help. Help them help themselves to health. By training, upgrade skills—multiply hands. Hope's doctors, dentists, nurses, and technicians will man a center complete to 300-bed mobile unit and portable TV.

You can not only make every dollar do the work of many, you can earn a priceless dividend. With health comes self-respect. People at peace with themselves are less likely to war with others.

Hope is *yours* to give. It's a people-to-people project. For one year's worth, 3½ million Americans must give a dollar. Don't wait to be asked. Mail a dollar or more now to HOPE, Box 9808, Washington 15, D.C.

HELP LAUNCH HOPE

INDEX TO ADVERTISERS

An * indicates advertisers who have essential technical information on their products in the **IMPORTANT 1959 FACT FILE**

*Abbott Machine Co. 184
*Acme Steel Co. 138
*Allen Sons Co., Wm., Div., O. G. Kelley & Co. 122
Allied Chemical Corp.
*General Chemical Div. 78
National Aniline Div. Fiber Sls. & Service.. 137
National Aniline Div... 37
Solvay Process Div. 105
*American Enka Corp. 134
*American Lava Corp. 153
American Moistening Co.. 24
American Viscose Corp.. 130, 131
Armstrong Cork Co. 34, 35, 124
Arnold, Hoffman & Co., Inc. 80
Atlas Electric Devices Co. 170

*Bahnson Co., The 32, 46
Barber-Colman Co. 183
Bond Co., Chas. 168
Borne Chemical Co. 116
Bristol Company 100
*Butterworth & Sons Co., H. W. 19

Carbic-Hoechst Corp..101, 102
*Carroll & Co., J. E. 172
Celanese Corp. of America 132, 133
*Clinton Corn Processing Co. 14
Coats & Clark Inc. 42, 43
*Cocker Machine & Foundry Co. 128
Columbia-Southern Chem. Co. 92, 93
*Continental-Diamond Fibre 148
Crompton & Knowles Corp. 22

*Dary Ring Traveler Co... 192
Dayton Rubber Co. 44, 45
Delta Air Lines 180
Diamond Crystal Salt Co.. 66
Diehl Mfg. Co. .....2nd Cover
Dinsmore Mfg. Co. 186
*Dodge Mfg. Co. 36
*Dommerich & Co., L. F.. 190
Draper Corporation 11, 31
Dronsfield Bros., Ltd. 187
Duesberg-Bosson of America, Inc. 188
DuPont de Nemours & Co., E. I.
Dyes & Chemicals Div. 89, 90

Eastman Chem. Prods. Inc.
Chemical Div. 109
Eaton Mfg. Co.
Dynamatic Div. 147
Ederer Co., L. S. 166

Fairbanks Co. 186
Fairtex Corp. 129
Felters Co. 158
*Foster Machine Co. 151
Electronics Sales Div.. 26
Franklin Process Div. of Indian Head Mills 95

Gates Rubber Co. 150
Geigy Dyestuff Div. of Geigy Chemical Corp.. 76
*General Dyestuff Corp..97, 98
*Gessner Co., David 91

*Harshaw Chemical Co.... 86
Hooker Chemical Corp... 112
Houghton & Co., E. F. 164, 165
Howard Bros. 28
Hubinger Co., The. 123
*Hunt Machine Co., Rodney 114, 115
Hyatt Bearings Div. General Motors Corp... 29

Ideal Industries, Inc. 175
International Business Machines 25

Jacobs Northern & Southern Div. The Bullard Clark Co.. 167
Jenkins Bros. 113
*Jiffy Textile Marker Co.. 192
*Johnson Corp. 189

Keever Starch Co. 173
Kidde Textile Machy. Corp. 169
*Klauder-Weldon-Giles Machine Co. 20
Koppers Co., Inc. Plastics Div. 73
Chemicals & Dyestuff Div. 99

Leesona Corp. 40, 41
Lestoil, Inc. 118
Link-Belt Co. 21
*Livingston & Haven, Inc. 167
*Lockwood-Greene Co. ... 185
Lubriplate Div., Fiske Bros. Refining Co. 176

Maple Flooring Mfgrs. Assn. 189
*Marshall & Williams Corp. 163
M-B Products 182
McBride Co., Inc., Ed. J. 30
Metals & Controls Div. Texas Instruments Incorporated 16
Metro-Atlantic 117
Miller Corp., Harry..... 159
Monsanto Chemical Co. *Plastic Div. 119
Morton Salt Co. 88
*Mount Hope Machinery Co. 111, 174

National Aniline Div. Allied Chem. Corp..... 37
Fiber Sales Div. 137
*National Ring Traveler Co. 189
*Nissen Jr. Co., J. P. 188
Norgren Co., C. A. 23

*Pabst Brewing Co. 187
Parks-Cramer Co. 39
Penna. Indl. Chem. Corp.. 74
*Perfecting Service Co.... 172
Pfaudler-Permutit Inc. Permutit Div. 191
Pneumafil Corp. 141
Powell Co., Wm., The... 108
*Proctor & Schwartz, Inc.. 155

Raybestos-Manhattan, Inc. Manhattan Rubber Div.. 38
*Reiner Inc., Robert..... 177
Rhoads & Son, J. E. 171
Ridge Tool Co. 163
Roberts Company 12, 13
*Rohm & Haas Co. 84

Sandoz, Inc. 68
Scholler Brothers, Inc.... 104
Shell Chemical Co. 65
Signode Steel Strapping Co. 161
Simco Co. 162
*Sirrine Co., J. E. 182
*Sonoco Products Co. 33
Steel Heddle Mfg. Co. .....3rd Cover
Stowe-Woodward, Inc. ... 145
*Supreme Knitting Mach. Co., Inc. 157

Texaco Inc. 143
*Textile Mach. Wks. 48
*Tompkins Bros. Co. 174
Torrington Co., The..... 181
Toshin-Kogyo Co., Ltd... 96
*Turbo Machine Co....120, 121

Union Bag—Camp Paper Co. 126, 127

*Veeder-Root Inc. ...4th Cover

Whitin Machine Works... 27
Wildman Jacquard Co.... 15
Wolf & Co., Jacques..... 94
Wood's Sons Co., T. B. 178, 179
*Woonsocket Napping Machinery Co. 166
Wyandotte Chemicals Michigan Alkali Div.82, 83

Young Aniline Works.... 122

CLASSIFIED ADVERTISING
F. J. Eberle, Business Mgr.

EMPLOYMENT OPPORTUNITIES.194, 196, 197

EQUIPMENT (Used or Surplus New) For Sale 194-198

WANTED Equipment 197

ADVERTISERS INDEX

A & M Blank Co. 198
Advanced Textile Co. 197
American Air Compressor Corp. 195
Bialek & Co., Theodore..... 194
Cox, W. James..... 197
Fitzgerald, James E..... 195
Huyck Felt Co. 194, 196, 197
Industrial Products of America 196
Machinery Sales Corp. 194
Mar-Day Textiles 198
McDowell Associates..... 197
Mohawk Valley Knitting Mills.. 196
Pawtucket Mill Supply Co. 198
Pennsylvania Spool & Equipment Co. 198
Perry Equipment Co. 198
Rabinowitz & Sons, William.... 195
Raymond Service, Inc., Charles P. 194, 197
Republic Textile Corp. 194
Roberts Co. 198
Southern Textile Works..... 198
Stave & Kessler 198
Textile Auxiliaries, Inc..... 196

This index is published as a convenience to the reader. Every care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.

For More Information

. . . on Advertisements, Equipment & Supply News, New Dyes & Chemicals, or free New Literature described in this issue. . . .

. . . Please circle the appropriate numbers on the post cards below. . . . Fill in your name, job title, mill, and address and mail. No postage required.

CIRCLE KEY NO. BELOW ON POST CARD FOR LITERATURE, BOOKLETS AND TECHNICAL BULLETINS AVAILABLE FROM THE FOLLOWING ADVERTISERS IN THIS ISSUE:

When an ad mentions more than one item, please circle the appropriate Reader Service card number and write on the card the particular item in which you are interested.

KEY NO. PAGE

132 CELANESE CORP. OF AMERICA 132, 133
Arnel Fabrics — For important technical procedure and facts about Arnel write for Booklets 12A, 13A and 14A.

36 DODGE MFG. CORP. 36
Card Drive—For full story of all advantages of Card Drive write for Bulletin A-653.

147 EATON MFG. CO.— DYNAMATIC DIV. 147
Adjusto-Spede Drive—Quill Type plus new K-2 Control and Push-Button Station. For further information write for Bulletin K-2-159.

151 FOSTER MACHINE CO. 151
Taper Cone—Write for Bulletin A-95-A for further information.

26 FOSTER MACHINE CO.— ELECTRONICS SALES DIV. 26
Automatic Yarn Inspector—Write to Dept. TW-3 for Bulletin.

160 THE GATES RUBBER CO. 160
V-Belt Drive — Write for your copy of "The Modern Way to Design Multiple V-Belt Drives."

86 HARSHAW CHEMICAL CO. ... 86
Anti-static Agent — Write for copy of Technical Bulletin on Uversoft "D".

CONTINUED ON NEXT PAGE

ADVERTISEMENTS: INSIDE FRONT COVER INSIDE BACK COVER BACK COVER

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180	181	182
183	184	185	186	187	188	189	190	191	192	193	194	195	196
250	251	252	253	254	255	256	257	258	259	260	261	262	263
264	265	266	267	268	269	270	271	272	273	274	275	276	277
278	279	280	281	282	283	284	285	286	287	288	289	290	291
292	293	294	295	296	297	298	299	300					

SEARCHLIGHT SECTION

400	401	402	403
404	405	406	407
408	409	410	411
412	413	414	415
416	417	418	419
420	421	422	423
424	425	426	427
428	429	430	431
432	433	434	435
436	437	438	439
440	441	442	443
444	445	446	447
448	449	450	451
452	453	454	455
456	457	458	459
460			

EQUIPMENT AND SUPPLY NEWS:

T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	T-12	T-13	T-14
T-15	T-16	T-17	T-18	T-19	T-20	T-21	T-22	T-23	T-24	T-25	T-26	T-27	T-28
T-29	T-30	T-31	T-32	T-33	T-34	T-35	T-36	T-37	T-38	T-39	T-40	T-41	T-42
T-43	T-44	T-45	T-46	T-47	T-48	T-49	T-50	T-51	T-52	T-53	T-54	T-55	T-56
T-57	T-58	T-59	T-60	T-61	T-62	T-63	T-64	T-65	T-66	T-67	T-68	T-69	T-70
T-71	T-72	T-73	T-74	T-75	T-76	T-77	T-78	T-79					

NEW LITERATURE:

F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-14
F-15	F-16	F-17	F-18	F-19	F-20	F-21	F-22	F-23	F-24	F-25	F-26	F-27	F-28
F-29	F-30	F-31	F-32	F-33	F-34	F-35	F-36	F-37	F-38	F-39	F-40	F-41	F-42
F-43	F-44	F-45	F-46	F-47	F-48	F-49	F-50	F-51	F-52	F-53			

DYES AND CHEMICALS:

D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14
D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-23	D-24				

Name ..... Title .....

Mill .....

Street .....

City ..... State .....

MARCH, 1960 •

ADVERTISEMENTS: INSIDE FRONT COVER INSIDE BACK COVER BACK COVER

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180	181	182
183	184	185	186	187	188	189	190	191	192	193	194	195	196
250	251	252	253	254	255	256	257	258	259	260	261	262	263
264	265	266	267	268	269	270	271	272	273	274	275	276	277
278	279	280	281	282	283	284	285	286	287	288	289	290	291
292	293	294	295	296	297	298	299	300					

SEARCHLIGHT SECTION

400	401	402	403
404	405	406	407
408	409	410	411
412	413	414	415
416	417	418	419
420	421	422	423
424	425	426	427
428	429	430	431
432	433	434	435
436	437	438	439
440	441	442	443
444	445	446	447
448	449	450	451
452	453	454	455
456	457	458	459
460			

EQUIPMENT AND SUPPLY NEWS:

T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	T-12	T-13	T-14
T-15	T-16	T-17	T-18	T-19	T-20	T-21	T-22	T-23	T-24	T-25	T-26	T-27	T-28
T-29	T-30	T-31	T-32	T-33	T-34	T-35	T-36	T-37	T-38	T-39	T-40	T-41	T-42
T-43	T-44	T-45	T-46	T-47	T-48	T-49	T-50	T-51	T-52	T-53	T-54	T-55	T-56
T-57	T-58	T-59	T-60	T-61	T-62	T-63	T-64	T-65	T-66	T-67	T-68	T-69	T-70
T-71	T-72	T-73	T-74	T-75	T-76	T-77	T-78	T-79					

NEW LITERATURE:

F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-14
F-15	F-16	F-17	F-18	F-19	F-20	F-21	F-22	F-23	F-24	F-25	F-26	F-27	F-28
F-29	F-30	F-31	F-32	F-33	F-34	F-35	F-36	F-37	F-38	F-39	F-40	F-41	F-42
F-43	F-44	F-45	F-46	F-47	F-48	F-49	F-50	F-51	F-52	F-53			

DYES AND CHEMICALS:

D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14
D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-23	D-24				

Name ..... Title .....

Mill .....

Street .....

City ..... State .....

MARCH, 1960 • •

KEY NO. PAGE

112 HOOKER CHEMICAL CORP. ... 112
Textile Chemicals—For more information write for
Caustic Soda Buyer's Guide
Chlorine Manual
Lauryl Pyridinium Chloride Data Sheet
Oxalic Acid Data Sheet
Potassium Carbonate Data Sheet
Trichlorethylene Data Sheet

123 HUBINGER CO., THE 123
Textile Starches—Write for informative technical articles on Textile Starches.

KEY NO. PAGE

A—Size Preparation in Textile Mills
B—Size Foaming—Its Cause and Cure
C—Acidity and Alkalinity—Significance of pH
D—New Improvements in Slashing

115 HUNT MACHINE CO., RODNEY 114, 115
Wet-finishing Equipment — For further information write for Catalog TM-89
Textile Wet-Finishing Equipment

KEY NO. PAGE

Bulletin 54
Niptrol Mangle
Catalog 849
Tensitrol Washers

113 JENKINS BROS. 113
Valves—For Valuable Guide to Valve Economy write for copy of "Prevent Valve Failure before it Starts" to Dept. E.

258 JOHNSON CORP. 189
Rotary Joints—Write for Catalog J-2002 for further information.

21 LINK-BELT CO. 21
Silent Chains—For full details write for 88-page Book 2425.

167 LIVINGSTON & HAVEN, INC. .. 167
Pneumatic Lap Control System —Write today for complete Details and Brochure.

30 McBRIDE 30
Creels—Write today for our latest catalog on Creels & fittings.

16 METALS & CONTROLS DIV., TEXAS INSTRUMENTS INCORPORATED 16
Motor Protectors—Prevent Motor Burnouts—Write for Bulletin Pr-1243.

88 MORTON SALT CO. 88
Salt—Write for additional information about Chemical Grade 999.

23 NORGREN CO., C. A. 23
Pressure Regulators— For complete information on regulator needs write for descriptive literature.

270 PABST BREWING CO. 187
Ex-Size Desizer—For further information write for free Desizing Manual.

105 SOLVAY PROCESS DIV. 105
Hydrogen Peroxide—For information write for Technical and Engineering Service Bulletin No. 19—also get your copy of Bulletin No. 63P.

145 STOWE-WOODWARD, INC. ... 145
Roll Covers—Write for Bulletin S which gives complete sealskin application information.

157 SUPREME KNITTING MACHINE CO., INC. 157
Knitting Machine—For New Supreme 1RW/2 model write for Booklet on important advance in the interlock field.

4th Cover **VEEDER-ROOT ..... Cover** 4th Cover
Loom Calculator—For maintaining production efficiency write for yours today.

179 WOOD'S SONS CO., T. B. 179
Card Drive—Write for Bulletin 6100 for further information.

WOOD'S SONS CO., T. B. 178
262 Belt Drives—Write for Bulletin 2100. 263 Variable Speed Drives—Write for Bulletin 1100. 264 "MCS" Motion Control—Write for Bulletins 8102-4101.

FIRST CLASS
Permit No. 64
(Sec. 34.9 P.L.&R.)
NEW YORK, N. Y.

BUSINESS REPLY MAIL
No Postage Stamp Necessary if Mailed in the United States

Postage Will Be Paid By—

Textile **World**
330 W. 42nd Street
NEW YORK 36, N. Y.

McGraw-Hill Publishing Co., Inc.

FIRST CLASS
Permit No. 64
(Sec. 34.9 P.L.&R.)
NEW YORK, N. Y.

BUSINESS REPLY MAIL
No Postage Stamp Necessary if Mailed in the United States

Postage Will Be Paid By—

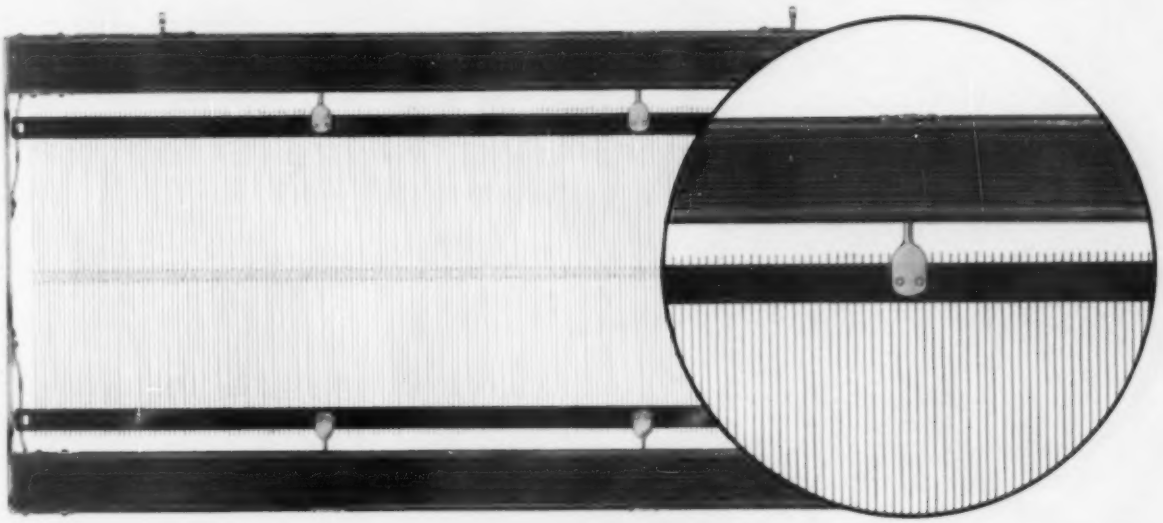
Textile **World**
330 W. 42nd Street
NEW YORK 36, N. Y.

McGraw-Hill Publishing Co., Inc.

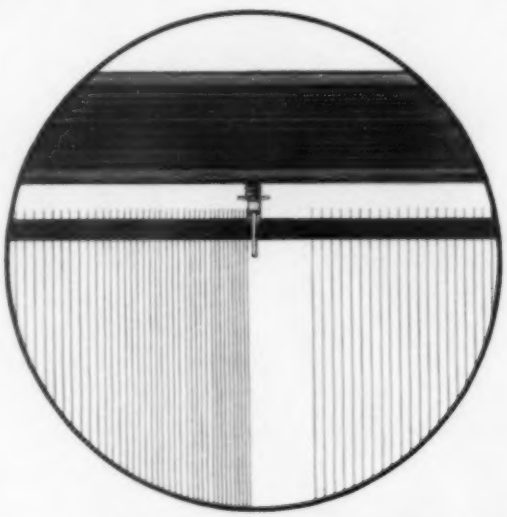
Stehedco

DRAWTEX HARNESS

IMPROVES EFFICIENCY AND QUALITY WITH PERFECT HEDDLE SPACING



Are your weavers and fixers handicapped by bunching of heddles at rod supports, as illustrated below?



Stehedco Drawtex rod supports allow completely free movement of the heddles. There is no obstruction to keep the heddles from finding their natural position on the rod. Therefore, warp streaks from heddle bunching are completely eliminated and down time to correct this condition is a thing of the past.

This is only one of many Stehedco Drawtex advantages. Ask our sales engineers to tell you all about them.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

F-5816

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N. C.
Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

Veeder-Root

Pick Counters help boost Weave Room Efficiency

Here's what a few users of Veeder-Root Pick Counters say:

"We make pick-counter readings each day for each shift — it stimulates continued interest in the work — it enables us to spot sub-standard production and make immediate correction."

"Weaver efficiency is computed on a daily and shift basis — our payroll system needs this information daily. We post weavers' and loomfixers' efficiency daily."

"We post production percentages in the weave room — weavers and supervisors keep close check on these production figures."

"We use pick-counter readings to pinpoint low efficiency looms and, occasionally, to check a complete weave room."

Greater efficiency control is yours when you install Veeder-Root Pick Counters — available for countrolling single, two, three or four shifts. Count on Veeder-Root to help you boost your weave room efficiency. Just call your nearby Veeder-Root Representative.

Veeder-Root

HARTFORD 2, CONNECTICUT

"The Name that Counts"

New York • Chicago • Los Angeles • San Francisco • Seattle
St. Louis • Greenville, S. C. • Altoona, Pa. • Montreal
Offices and Agents in other principal cities

VR9-58